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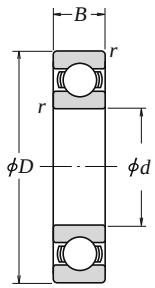
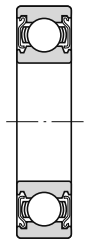
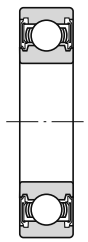
Delik Çapı 10 – 22 mm



Açık Tip



Kapaklı Tip ZZ



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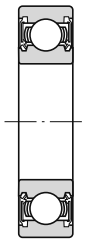
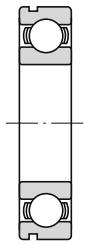
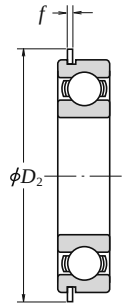


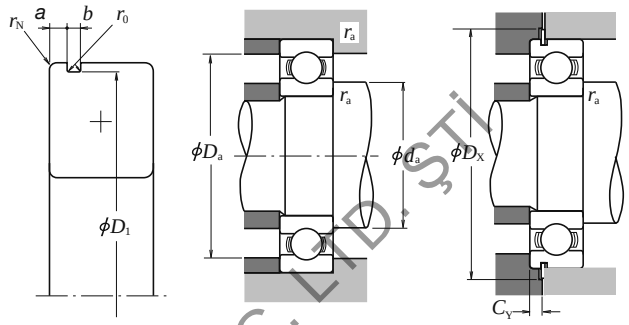
Temaslı Keçeli Tip DD · DDU



Emniyet Segman Yuvalı N



Emniyet Segmanlı NR



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$\frac{f_0F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Statik Eşdeğer Yük

$\frac{F_a}{F_r} > 0.8,\ P_0 = 0.6F_r + 0.5F_a$

$\frac{F_a}{F_r} \leqq 0.8,\ P_0 = F_r$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Faktör	Limit Hızları (dak⁻¹) Gres		Yağ	Rulman Numaraları			
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Açık Z · ZZ V · VV	DU DDU	Açık Z	Açık	Kapaklı	Keçeli	
10	19	5	0.3	1 720	840	175	86	14.8	34 000	24 000	40 000	**6800**	**ZZ**	**VV**	**DD**
	22	6	0.3	2 700	1 270	275	129	14.0	32 000	22 000	38 000	**6900**	**ZZ**	**VV**	**DD**
	26	8	0.3	4 550	1 970	465	201	12.4	30 000	22 000	36 000	**6000**	**ZZ**	**VV**	**DDU**
	30	9	0.6	5 100	2 390	520	244	13.2	24 000	18 000	30 000	**6200**	**ZZ**	**VV**	**DDU**
	35	11	0.6	8 100	3 450	825	350	11.2	22 000	17 000	26 000	**6300**	**ZZ**	**VV**	**DDU**
12	21	5	0.3	1 920	1 040	195	106	15.3	32 000	20 000	38 000	**6801**	**ZZ**	**VV**	**DD**
	24	6	0.3	2 890	1 460	295	149	14.5	30 000	20 000	36 000	**6901**	**ZZ**	**VV**	**DD**
	28	7	0.3	5 100	2 370	520	241	13.0	28 000	—	32 000	**16001**	—	—	—
	28	8	0.3	5 100	2 370	520	241	13.0	28 000	18 000	32 000	**6001**	**ZZ**	**VV**	**DDU**
	32	10	0.6	6 800	3 050	695	310	12.3	22 000	17 000	28 000	**6201**	**ZZ**	**VV**	**DDU**
	37	12	1	9 700	4 200	990	425	11.1	20 000	16 000	24 000	**6301**	**ZZ**	**VV**	**DDU**
15	24	5	0.3	2 070	1 260	212	128	15.8	28 000	17 000	34 000	**6802**	**ZZ**	**VV**	**DD**
	28	7	0.3	4 350	2 260	440	230	14.3	26 000	17 000	30 000	**6902**	**ZZ**	**VV**	**DD**
	32	8	0.3	5 600	2 830	570	289	13.9	24 000	—	28 000	**16002**	—	—	—
	32	9	0.3	5 600	2 830	570	289	13.9	24 000	15 000	28 000	**6002**	**ZZ**	**VV**	**DDU**
	35	11	0.6	7 650	3 750	780	380	13.2	20 000	14 000	24 000	**6202**	**ZZ**	**VV**	**DDU**
	42	13	1	11 400	5 450	1 170	555	12.3	17 000	13 000	20 000	**6302**	**ZZ**	**VV**	**DDU**
17	26	5	0.3	2 630	1 570	268	160	15.7	26 000	15 000	30 000	**6803**	**ZZ**	**VV**	**DD**
	30	7	0.3	4 600	2 550	470	260	14.7	24 000	15 000	28 000	**6903**	**ZZ**	**VV**	**DDU**
	35	8	0.3	6 000	3 250	610	330	14.4	22 000	—	26 000	**16003**	—	—	—
	35	10	0.3	6 000	3 250	610	330	14.4	22 000	13 000	26 000	**6003**	**ZZ**	**VV**	**DDU**
	40	12	0.6	9 550	4 800	975	490	13.2	17 000	12 000	20 000	**6203**	**ZZ**	**VV**	**DDU**
	47	14	1	13 600	6 650	1 390	675	12.4	15 000	11 000	18 000	**6303**	**ZZ**	**VV**	**DDU**
20	32	7	0.3	4 000	2 470	410	252	15.5	22 000	13 000	26 000	**6804**	**ZZ**	**VV**	**DD**
	37	9	0.3	6 400	3 700	650	375	14.7	19 000	12 000	22 000	**6904**	**ZZ**	**VV**	**DDU**
	42	8	0.3	7 900	4 450	810	455	14.5	18 000	—	20 000	**16004**	—	—	—
	42	12	0.6	9 400	5 000	955	510	13.8	18 000	11 000	20 000	**6004**	**ZZ**	**VV**	**DDU**
	47	14	1	12 800	6 600	1 300	670	13.1	15 000	11 000	18 000	**6204**	**ZZ**	**VV**	**DDU**
	52	15	1.1	15 900	7 900	1 620	805	12.4	14 000	10 000	17 000	**6304**	**ZZ**	**VV**	**DDU**
22	44	12	0.6	9 400	5 050	960	515	14.0	17 000	11 000	20 000	**60/22**	**ZZ**	**VV**	**DDU**
	50	14	1	12 900	6 800	1 320	695	13.5	14 000	9 500	16 000	**62/22**	**ZZ**	**VV**	**DDU**
	56	16	1.1	18 400	9 250	1 870	940	12.4	13 000	9 500	16 000	**63/22**	**ZZ**	**VV**	**DDU**

Emniyet Segman Yuvalı	Emniyet Segmanlı	Emniyet Segmanı Yuvası Ölçüleri (¹) (mm)					Emniyet Segmanı (¹) Ölçüleri (mm)		Dayanak ve Dolgu Ölçüleri (mm)						Kütle (kg)
		a maks.	b min.	D_1 maks.	r_0 maks.	r_N min.	D_2 maks.	f maks.	d_a(²) min.	d_a(²) maks.	D_a(²) maks.	r_a maks.	D_x min.	C_Y maks.	yaklaşık
—	—	—	—	—	—	—	—	—	12	12	17	0.3	—	—	0.005
N(³)	**NR**(³)	1.05	0.8	20.8	0.2	0.2	24.8	0.7	12	12.5	20	0.3	25.5	1.5	0.009
N(⁴)	**NR**(⁴)	1.35	0.87	24.5	0.2	0.3	28.7	0.84	12	13	24	0.3	29.4	1.9	0.018
N	**NR**	2.06	1.35	28.17	0.4	0.5	34.7	1.12	14	16	26	0.6	35.5	2.9	0.032
N	**NR**	2.06	1.35	33.17	0.4	0.5	39.7	1.12	14	16.5	31	0.6	40.5	2.9	0.052
—	—	—	—	—	—	—	—	—	14	14	19	0.3	—	—	0.006
N	**NR**	1.05	0.8	22.8	0.2	0.2	26.8	0.7	14	14.5	22	0.3	27.5	1.5	0.010
—	—	—	—	—	—	—	—	—	14	—	26	0.3	—	—	0.019
N(⁴)	**NR**(⁴)	1.35	0.87	26.5	0.2	0.3	30.7	0.84	14	15.5	26	0.3	31.4	1.9	0.022
N	**NR**	2.06	1.35	30.15	0.4	0.5	36.7	1.12	16	17	28	0.6	37.5	2.9	0.037
N	**NR**	2.06	1.35	34.77	0.4	0.5	41.3	1.12	17	18	32	1	42	2.9	0.060
—	—	—	—	—	—	—	—	—	17	17	22	0.3	—	—	0.007
N	**NR**	1.3	0.95	26.7	0.25	0.3	30.8	0.85	17	17	26	0.3	31.5	1.8	0.015
—	—	—	—	—	—	—	—	—	17	—	30	0.3	—	—	0.027
N	**NR**	2.06	1.35	30.15	0.4	0.3	36.7	1.12	17	19	30	0.3	37.5	2.9	0.031
N	**NR**	2.06	1.35	33.17	0.4	0.5	39.7	1.12	19	20.5	31	0.6	40.5	2.9	0.045
N	**NR**	2.06	1.35	39.75	0.4	0.5	46.3	1.12	20	22.5	37	1	47	2.9	0.083
—	—	—	—	—	—	—	—	—	19	19	24	0.3	—	—	0.007
N	**NR**	1.3	0.95	28.7	0.25	0.3	32.8	0.85	19	19.5	28	0.3	33.5	1.8	0.017
—	—	—	—	—	—	—	—	—	19	—	33	0.3	—	—	0.033
N	**NR**	2.06	1.35	33.17	0.4	0.3	39.7	1.12	19	21.5	33	0.3	40.5	2.9	0.041
N	**NR**	2.06	1.35	38.1	0.4	0.5	44.6	1.12	21	23.5	36	0.6	45.5	2.9	0.067
N	**NR**	2.46	1.35	44.6	0.4	0.5	52.7	1.12	22	25.5	42	1	53.5	3.3	0.113
N	**NR**	1.3	0.95	30.7	0.25	0.3	34.8	0.85	22	22	30	0.3	35.5	1.8	0.017
N	**NR**	1.7	0.95	35.7	0.25	0.3	39.8	0.85	22	24	35	0.3	40.5	2.3	0.037
—	—	—	—	—	—	—	—	—	22	—	40	0.3	—	—	0.048
N	**NR**	2.06	1.35	39.75	0.4	0.5	46.3	1.12	24	25.5	38	0.6	47	2.9	0.068
N	**NR**	2.46	1.35	44.6	0.4	0.5	52.7	1.12	25	26.5	42	1	53.5	3.3	0.107
N	**NR**	2.46	1.35	49.73	0.4	0.5	57.9	1.12	26.5	28	45.5	1	58.5	3.3	0.145
N	**NR**	2.06	1.35	41.75	0.4	0.5	48.3	1.12	26	26.5	40	0.6	49	2.9	0.074
N	**NR**	2.46	1.35	47.6	0.4	0.5	55.7	1.12	27	29.5	45	1	56.5	3.3	0.119
N	**NR**	2.46	1.35	53.6	0.4	0.5	61.7	1.12	28.5	30.5	49.5	1	62.5	3.3	0.179

Notlar (¹) Emniyet segmanı yuvalarının toleransları ve emniyet segmanı ölçüleri için, **A50** ile **A53** arasındaki sayfalara bakınız.

(²) Ağır eksenel yükler uygulandığında, yukarıdaki değerlerden d_a 'yı arttırın ve D_a 'yı azaltınız.

(³) N ve NR bilezik tipleri sadece açık tip rulmanlar için geçerlidir.

Notlar (⁴) Emniyet segmanı yuvası ölçüleri ve emniyet segmanı ölçüleri ISO15'e uygun değildir.

Notlar 1. Çap Serisi 7 (çok ince kesitli rulmanlar) de mevcuttur, lütfen NSK'ya başvurunuz.

2. Döner dış bilezikli rulmanları kullanırken, rulmanlar keçeli, kapaklı ise veya emniyet segmanları varsa NSK'ya başvurunuz.

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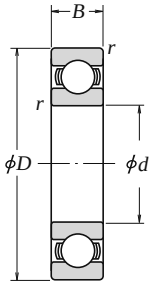
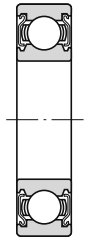
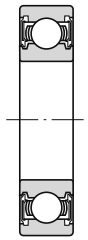
Delik Çapı 25 – 45 mm



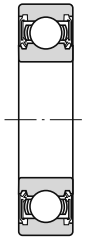
Açık Tip



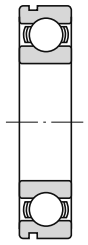
Kapaklı Tip ZZ



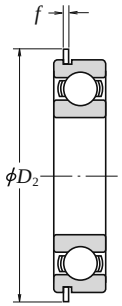
Temassız Keçeli Tip VV



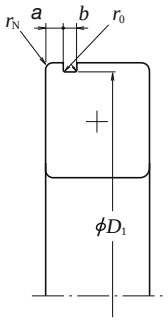
Temaslı Keçeli Tip DD · DDU

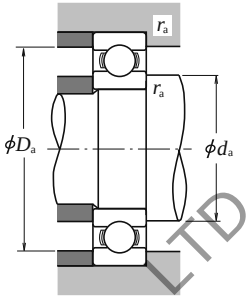


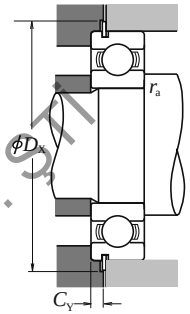
Emniyet Segman Yuvalı N



Emniyet Segmanlı NR







Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$\frac{f_0F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Statik Eşdeğer Yük

$\frac{F_a}{F_r} > 0.8,\ P_0 = 0.6F_r + 0.5F_a$

$\frac{F_a}{F_r} \leqq 0.8,\ P_0 = F_r$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Faktör	Limit Hızları (dak⁻¹) Gres		Yağ	Rulman Numaraları			
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Açık Z · ZZ V · VV	DU DDU	Açık Z	Açık	Kapaklı	Keçeli	
25	37	7	0.3	4 500	3 150	455	320	16.1	18 000	10 000	22 000	**6805**	**ZZ**	**VV**	**DD**
	42	9	0.3	7 050	4 550	715	460	15.4	16 000	10 000	19 000	**6905**	**ZZ**	**VV**	**DDU**
	47	8	0.3	8 850	5 600	905	570	15.1	15 000	—	18 000	**16005**	—	—	—
	47	12	0.6	10 100	5 850	1 030	595	14.5	15 000	9 500	18 000	**6005**	**ZZ**	**VV**	**DDU**
	52	15	1	14 000	7 850	1 430	800	13.9	13 000	9 000	15 000	**6205**	**ZZ**	**VV**	**DDU**
	62	17	1.1	20 600	11 200	2 100	1 150	13.2	11 000	8 000	13 000	**6305**	**ZZ**	**VV**	**DDU**
28	52	12	0.6	12 500	7 400	1 270	755	14.5	14 000	8 500	16 000	**60/28**	**ZZ**	**VV**	**DDU**
	58	16	1	16 600	9 500	1 700	970	13.9	12 000	8 000	14 000	**62/28**	**ZZ**	**VV**	**DDU**
	68	18	1.1	26 700	14 000	2 730	1 430	12.4	10 000	7 500	13 000	**63/28**	**ZZ**	**VV**	**DDU**
30	42	7	0.3	4 700	3 650	480	370	16.4	15 000	9 000	18 000	**6806**	**ZZ**	**VV**	**DD**
	47	9	0.3	7 250	5 000	740	510	15.8	14 000	8 500	17 000	**6906**	**ZZ**	**VV**	**DDU**
	55	9	0.3	11 200	7 350	1 150	750	15.2	13 000	—	15 000	**16006**	—	—	—
	55	13	1	13 200	8 300	1 350	845	14.7	13 000	8 000	15 000	**6006**	**ZZ**	**VV**	**DDU**
	62	16	1	19 500	11 300	1 980	1 150	13.8	11 000	7 500	13 000	**6206**	**ZZ**	**VV**	**DDU**
	72	19	1.1	26 700	15 000	2 720	1 530	13.3	9 500	6 700	12 000	**6306**	**ZZ**	**VV**	**DDU**
32	58	13	1	15 100	9 150	1 530	935	14.5	12 000	7 500	14 000	**60/32**	**ZZ**	**VV**	**DDU**
	65	17	1	20 700	11 600	2 120	1 190	13.6	10 000	7 100	12 000	**62/32**	**ZZ**	**VV**	**DDU**
	75	20	1.1	29 900	17 000	3 050	1 730	13.2	9 000	6 300	11 000	**63/32**	**ZZ**	**VV**	**DDU**
35	47	7	0.3	4 900	4 100	500	420	16.7	14 000	7 500	16 000	**6807**	**ZZ**	**VV**	**DD**
	55	10	0.6	10 600	7 250	1 080	740	15.5	12 000	7 500	15 000	**6907**	**ZZ**	**VV**	**DDU**
	62	9	0.3	11 700	8 200	1 190	835	15.6	11 000	—	13 000	**16007**	—	—	—
	62	14	1	16 000	10 300	1 630	1 050	14.8	11 000	6 700	13 000	**6007**	**ZZ**	**VV**	**DDU**
	72	17	1.1	25 700	15 300	2 620	1 560	13.8	9 500	6 300	11 000	**6207**	**ZZ**	**VV**	**DDU**
	80	21	1.5	33 500	19 200	3 400	1 960	13.2	8 500	6 000	10 000	**6307**	**ZZ**	**VV**	**DDU**
40	52	7	0.3	6 350	5 550	650	565	17.0	12 000	6 700	14 000	**6808**	**ZZ**	**VV**	**DD**
	62	12	0.6	13 700	10 000	1 390	1 020	15.7	11 000	6 300	13 000	**6908**	**ZZ**	**VV**	**DDU**
	68	9	0.3	12 600	9 650	1 290	985	16.0	10 000	—	12 000	**16008**	—	—	—
	68	15	1	16 800	11 500	1 710	1 180	15.3	10 000	6 000	12 000	**6008**	**ZZ**	**VV**	**DDU**
	80	18	1.1	29 100	17 900	2 970	1 820	14.0	8 500	5 600	10 000	**6208**	**ZZ**	**VV**	**DDU**
	90	23	1.5	40 500	24 000	4 150	2 450	13.2	7 500	5 300	9 000	**6308**	**ZZ**	**VV**	**DDU**
45	58	7	0.3	6 600	6 150	670	625	17.2	11 000	6 000	13 000	**6809**	**ZZ**	**VV**	**DD**
	68	12	0.6	14 100	10 900	1 440	1 110	15.9	9 500	5 600	12 000	**6909**	**ZZ**	**VV**	**DDU**
	75	10	0.6	14 900	11 400	1 520	1 160	15.9	9 000	—	11 000	**16009**	—	—	—
	75	16	1	20 900	15 200	2 140	1 550	15.3	9 000	5 300	11 000	**6009**	**ZZ**	**VV**	**DDU**
	85	19	1.1	31 500	20 400	3 200	2 080	14.4	7 500	5 300	9 000	**6209**	**ZZ**	**VV**	**DDU**
	100	25	1.5	53 000	32 000	5 400	3 250	13.1	6 700	4 800	8 000	**6309**	**ZZ**	**VV**	**DDU**

Emniyet Segman Yuvalı	Emniyet Segmanlı	Emniyet Segmanı Yuvası Ölçüleri (1) (mm)					Emniyet Segmanı (1) Ölçüleri (mm)		Dayanak ve Dolgu Ölçüleri (mm)						Kütle (kg)
		a maks.	b min.	D_1 maks.	r_0 maks.	r_N min.	D_2 maks.	f maks.	d_a(2) min.	d_a(2) maks.	D_a(2) maks.	r_a maks.	D_x min.	C_Y maks.	yaklaşık
N	**NR**	1.3	0.95	35.7	0.25	0.3	39.8	0.85	27	27	35	0.3	40.5	1.8	0.021
N	**NR**	1.7	0.95	40.7	0.25	0.3	44.8	0.85	27	28.5	40	0.3	45.5	2.3	0.042
—	—	—	—	—	—	—	—	—	27	—	45	0.3	—	—	0.059
N	**NR**	2.06	1.35	44.6	0.4	0.5	52.7	1.12	29	30	43	0.6	53.5	2.9	0.079
N	**NR**	2.46	1.35	49.73	0.4	0.5	57.9	1.12	30	32	47	1	58.5	3.3	0.129
N	**NR**	3.28	1.9	59.61	0.6	0.5	67.7	1.7	31.5	36	55.5	1	68.5	4.6	0.235
N	**NR**	2.06	1.35	49.73	0.4	0.5	57.9	1.12	32	34	48	0.6	58.5	2.9	0.096
N	**NR**	2.46	1.35	55.6	0.4	0.5	63.7	1.12	33	35.5	53	1	64.5	3.3	0.175
N	**NR**	3.28	1.9	64.82	0.6	0.5	74.6	1.7	34.5	38	61.5	1	76	4.6	0.287
N	**NR**	1.3	0.95	40.7	0.25	0.3	44.8	0.85	32	32	40	0.3	45.5	1.8	0.024
N	**NR**	1.7	0.95	45.7	0.25	0.3	49.8	0.85	32	34	45	0.3	50.5	2.3	0.052
—	—	—	—	—	—	—	—	—	32	—	53	0.3	—	—	0.087
N	**NR**	2.08	1.35	52.6	0.4	0.5	60.7	1.12	35	36.5	50	1	61.5	2.9	0.116
N	**NR**	3.28	1.9	59.61	0.6	0.5	67.7	1.7	35	38.5	57	1	68.5	4.6	0.199
N	**NR**	3.28	1.9	68.81	0.6	0.5	78.6	1.7	36.5	42.5	65.5	1	80	4.6	0.345
N	**NR**	2.08	1.35	55.6	0.4	0.5	63.7	1.12	37	38.5	53	1	64.5	2.9	0.122
N	**NR**	3.28	1.9	62.6	0.6	0.5	70.7	1.7	37	40	60	1	71.5	4.6	0.225
N	**NR**	3.28	1.9	71.83	0.6	0.5	81.6	1.7	38.5	44.5	68.5	1	83	4.6	0.389
N	**NR**	1.3	0.95	45.7	0.25	0.3	49.8	0.85	37	37	45	0.3	50.5	1.8	0.027
N	**NR**	1.7	0.95	53.7	0.25	0.5	57.8	0.85	39	39	51	0.6	58.5	2.3	0.075
—	—	—	—	—	—	—	—	—	37	—	60	0.3	—	—	0.107
N	**NR**	2.08	1.9	59.61	0.6	0.5	67.7	1.7	40	41.5	57	1	68.5	3.4	0.151
N	**NR**	3.28	1.9	68.81	0.6	0.5	78.6	1.7	41.5	44.5	65.5	1	80	4.6	0.284
N	**NR**	3.28	1.9	76.81	0.6	0.5	86.6	1.7	43	47	72	1.5	88	4.6	0.464
N	**NR**	1.3	0.95	50.7	0.25	0.3	54.8	0.85	42	42	50	0.3	55.5	1.8	0.031
N	**NR**	1.7	0.95	60.7	0.25	0.5	64.8	0.85	44	46	58	0.6	65.5	2.3	0.112
—	—	—	—	—	—	—	—	—	42	—	66	0.3	—	—	0.13
N	**NR**	2.49	1.9	64.82	0.6	0.5	74.6	1.7	45	47.5	63	1	76	3.8	0.19
N	**NR**	3.28	1.9	76.81	0.6	0.5	86.6	1.7	46.5	50.5	73.5	1	88	4.6	0.366
N	**NR**	3.28	2.7	86.79	0.6	0.5	96.5	2.46	48	53	82	1.5	98	5.4	0.636
N	**NR**	1.3	0.95	56.7	0.25	0.3	60.8	0.85	47	47.5	56	0.3	61.5	1.8	0.038
N	**NR**	1.7	0.95	66.7	0.25	0.5	70.8	0.85	49	50	64	0.6	72	2.3	0.126
—	—	—	—	—	—	—	—	—	49	—	71	0.6	—	—	0.167
N	**NR**	2.49	1.9	71.83	0.6	0.5	81.6	1.7	50	53.5	70	1	83	3.8	0.241
N	**NR**	3.28	1.9	81.81	0.6	0.5	91.6	1.7	51.5	55.5	78.5	1	93	4.6	0.42
N	**NR**	3.28	2.7	96.8	0.6	0.5	106.5	2.46	53	61.5	92	1.5	108	5.4	0.829

Notlar (1) Emniyet segmanı yuvalarının toleransları ve emniyet segmanı ölçüleri için, **A50** ile **A53** arasındaki sayfalara bakınız.

(2) Ağır eksenel yükler uygulandığında, yukarıdaki değerlerden d_a 'yı arttırınız ve D_a 'yı azaltınız.

Notlar

1. Çap Serisi 7 (çok ince kesitli rulmanlar) de mevcuttur, lütfen NSK'ya başvurunuz.
2. Döner dış bilezikli rulmanları kullanırken, rulmanlar keçeli, kapaklı ise veya emniyet segmanları varsa NSK'ya başvurunuz.

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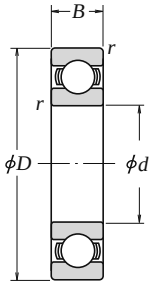
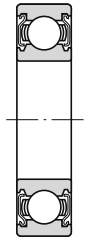
Delik Çapı 50 – 75 mm



Açık Tip



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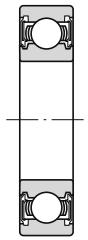
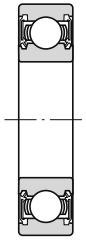
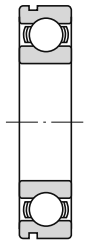


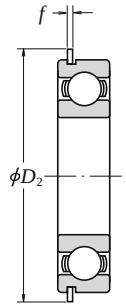
Temassız Keçeli Tip VV



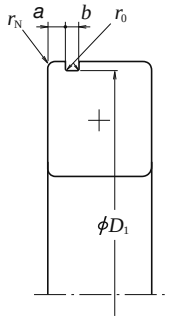
Temaslı Keçeli Tip DD · DDU

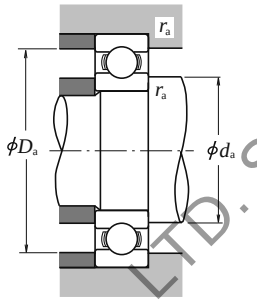


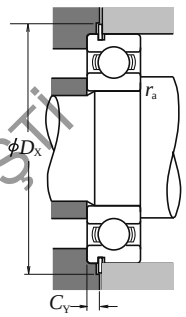
Emniyet Segman Yuvalı N



Emniyet Segmanlı NR







Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$\frac{f_0F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Statik Eşdeğer Yük

$\frac{F_a}{F_r} > 0.8,\ P_0 = 0.6F_r + 0.5F_a$

$\frac{F_a}{F_r} \leqq 0.8,\ P_0 = F_r$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Faktör	Limit Hızları (dak⁻¹) Gres		Yağ	Rulman Numaraları			
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Açık Z · ZZ V · VV	DU DDU	Açık Z	Açık	Kapaklı	Keçeli	
50	65	7	0.3	6 400	6 200	655	635	17.2	9 500	5 300	11 000	**6810**	**ZZ**	**VV**	**DDU**
	72	12	0.6	14 500	11 700	1 480	1 200	16.1	9 000	5 300	11 000	**6910**	**ZZ**	**VV**	**DDU**
	80	10	0.6	15 400	12 400	1 570	1 260	16.1	8 500	—	10 000	**16010**	—	—	—
	80	16	1	21 800	16 600	2 220	1 700	15.6	8 500	4 800	10 000	**6010**	**ZZ**	**VV**	**DDU**
	90	20	1.1	35 000	23 200	3 600	2 370	14.4	7 100	4 800	8 500	**6210**	**ZZ**	**VV**	**DDU**
	110	27	2	62 000	38 500	6 300	3 900	13.2	6 000	4 300	7 500	**6310**	**ZZ**	**VV**	**DDU**
55	72	9	0.3	8 800	8 500	900	865	17.0	8 500	4 800	10 000	**6811**	**ZZ**	**VV**	**DDU**
	80	13	1	16 000	13 300	1 630	1 350	16.2	8 000	4 500	9 500	**6911**	**ZZ**	**VV**	**DDU**
	90	11	0.6	19 400	16 300	1 980	1 660	16.2	7 500	—	9 000	**16011**	—	—	—
	90	18	1.1	28 300	21 200	2 880	2 170	15.3	7 500	4 500	9 000	**6011**	**ZZ**	**VV**	**DDU**
	100	21	1.5	43 500	29 300	4 450	2 980	14.3	6 300	4 300	7 500	**6211**	**ZZ**	**VV**	**DDU**
	120	29	2	71 500	44 500	7 300	4 550	13.1	5 600	4 000	6 700	**6311**	**ZZ**	**VV**	**DDU**
60	78	10	0.3	11 500	10 900	1 170	1 120	16.9	8 000	4 500	9 500	**6812**	**ZZ**	**VV**	**DD**
	85	13	1	19 400	16 300	1 980	1 660	16.2	7 500	4 300	9 000	**6912**	**ZZ**	**VV**	**DDU**
	95	11	0.6	20 000	17 500	2 040	1 780	16.3	7 100	—	8 500	**16012**	—	—	—
	95	18	1.1	29 500	23 200	3 000	2 370	15.6	7 100	4 000	8 500	**6012**	**ZZ**	**VV**	**DDU**
	110	22	1.5	52 500	36 000	5 350	3 700	14.3	5 600	3 800	7 100	**6212**	**ZZ**	**VV**	**DDU**
	130	31	2.1	82 000	52 000	8 350	5 300	13.1	5 300	3 600	6 300	**6312**	**ZZ**	**VV**	**DDU**
65	85	10	0.6	11 900	12 100	1 220	1 230	17.0	7 500	4 000	8 500	**6813**	**ZZ**	**VV**	**DD**
	90	13	1	17 400	16 100	1 770	1 640	16.6	7 100	4 000	8 500	**6913**	**ZZ**	**VV**	**DDU**
	100	11	0.6	20 500	18 700	2 090	1 910	16.5	6 700	—	8 000	**16013**	—	—	—
	100	18	1.1	30 500	25 200	3 100	2 570	15.8	6 700	4 000	8 000	**6013**	**ZZ**	**VV**	**DDU**
	120	23	1.5	57 500	40 000	5 850	4 100	14.4	5 300	3 600	6 300	**6213**	**ZZ**	**VV**	**DDU**
	140	33	2.1	92 500	60 000	9 450	6 100	13.2	4 800	3 400	6 000	**6313**	**ZZ**	**VV**	**DDU**
70	90	10	0.6	12 100	12 700	1 230	1 300	17.2	6 700	3 800	8 000	**6814**	**ZZ**	**VV**	**DD**
	100	16	1	23 700	21 200	2 420	2 160	16.3	6 300	3 600	7 500	**6914**	**ZZ**	**VV**	**DDU**
	110	13	0.6	26 800	23 600	2 730	2 410	16.3	6 000	—	7 100	**16014**	—	—	—
	110	20	1.1	38 000	31 000	3 900	3 150	15.6	6 000	3 600	7 100	**6014**	**ZZ**	**VV**	**DDU**
	125	24	1.5	62 000	44 000	6 350	4 500	14.5	5 000	3 400	6 300	**6214**	**ZZ**	**VV**	**DDU**
	150	35	2.1	104 000	68 000	10 600	6 950	13.2	4 500	3 200	5 300	**6314**	**ZZ**	**VV**	**DDU**
75	95	10	0.6	12 500	13 900	1 280	1 410	17.3	6 300	3 600	7 500	**6815**	**ZZ**	**VV**	**DDU**
	105	16	1	24 400	22 600	2 480	2 300	16.5	6 000	3 400	7 100	**6915**	**ZZ**	**VV**	**DDU**
	115	13	0.6	27 600	25 300	2 820	2 580	16.4	5 600	—	6 700	**16015**	—	—	—
	115	20	1.1	39 500	33 500	4 050	3 400	15.8	5 600	3 400	6 700	**6015**	**ZZ**	**VV**	**DDU**
	130	25	1.5	66 000	49 500	6 750	5 050	14.7	4 800	3 200	5 600	**6215**	**ZZ**	**VV**	**DDU**
	160	37	2.1	113 000	77 000	11 600	7 850	13.2	4 300	2 800	5 000	**6315**	**ZZ**	**VV**	**DDU**

Emniyet Segman Yuvalı	Emniyet Segmanlı	Emniyet Segmanı Yuvası Ölçüleri (1) (mm)					Emniyet Segmanı (1) Ölçüleri (mm)		Dayanak ve Dolgu Ölçüleri (mm)						Kütle (kg)
		a maks.	b min.	D_1 maks.	r_0 maks.	r_N min.	D_2 maks.	f maks.	d_a(2) min.	d_a(2) maks.	D_a(2) maks.	r_a maks.	D_x min.	C_Y maks.	yaklaşık
N	**NR**	1.3	0.95	63.7	0.25	0.3	67.8	0.85	52	52.5	63	0.3	68.5	1.8	0.050
N	**NR**	1.7	0.95	70.7	0.25	0.5	74.8	0.85	54	55	68	0.6	76	2.3	0.135
—	—	—	—	—	—	—	—	—	54	—	76	0.6	—	—	0.175
N	**NR**	2.49	1.9	76.81	0.6	0.5	86.6	1.7	55	58.5	75	1	88	3.8	0.261
N	**NR**	3.28	2.7	86.79	0.6	0.5	96.5	2.46	56.5	60	83.5	1	98	5.4	0.459
N	**NR**	3.28	2.7	106.81	0.6	0.5	116.6	2.46	59	68	101	2	118	5.4	1.06
N	**NR**	1.7	0.95	70.7	0.25	0.3	74.8	0.85	57	59	70	0.3	76	2.3	0.081
N	**NR**	2.1	1.3	77.9	0.4	0.5	84.4	1.12	60	61.5	75	1	86	2.9	0.189
—	—	—	—	—	—	—	—	—	59	—	86	0.6	—	—	0.257
N	**NR**	2.87	2.7	86.79	0.6	0.5	96.5	2.46	61.5	64	83.5	1	98	5	0.381
N	**NR**	3.28	2.7	96.8	0.6	0.5	106.5	2.46	63	66.5	92	1.5	108	5.4	0.619
N	**NR**	4.06	3.1	115.21	0.6	0.5	129.7	2.82	64	72.5	111	2	131.5	6.5	1.37
N	**NR**	1.7	1.3	76.2	0.4	0.3	82.7	1.12	62	64	76	0.3	84	2.5	0.103
N	**NR**	2.1	1.3	82.9	0.4	0.5	89.4	1.12	65	66	80	1	91	2.9	0.192
—	—	—	—	—	—	—	—	—	64	—	91	0.6	—	—	0.281
N	**NR**	2.87	2.7	91.82	0.6	0.5	101.6	2.46	66.5	69	88.5	1	103	5	0.412
N	**NR**	3.28	2.7	106.81	0.6	0.5	116.6	2.46	68	74.5	102	1.5	118	5.4	0.783
N	**NR**	4.06	3.1	125.22	0.6	0.5	139.7	2.82	71	79	119	2	141.5	6.5	1.72
N	**NR**	1.7	1.3	82.9	0.4	0.5	89.4	1.12	69	69	81	0.6	91	2.5	0.128
N	**NR**	2.1	1.3	87.9	0.4	0.5	94.4	1.12	70	71.5	85	1	96	2.9	0.218
—	—	—	—	—	—	—	—	—	69	—	96	0.6	—	—	0.30
N	**NR**	2.87	2.7	96.8	0.6	0.5	106.5	2.46	71.5	73	93.5	1	108	5	0.439
N	**NR**	4.06	3.1	115.21	0.6	0.5	129.7	2.82	73	80	112	1.5	131.5	6.5	1.0
N	**NR**	4.9	3.1	135.23	0.6	0.5	149.7	2.82	76	85.5	129	2	152	7.3	2.11
N	**NR**	1.7	1.3	87.9	0.4	0.5	94.4	1.12	74	74.5	86	0.6	96	2.5	0.134
N	**NR**	2.5	1.3	97.9	0.4	0.5	104.4	1.12	75	77.5	95	1	106	3.3	0.349
—	—	—	—	—	—	—	—	—	74	—	106	0.6	—	—	0.441
N	**NR**	2.87	2.7	106.81	0.6	0.5	116.6	2.46	76.5	80.5	103.5	1	118	5	0.608
N	**NR**	4.06	3.1	120.22	0.6	0.5	134.7	2.82	78	84	117	1.5	136.5	6.5	1.09
N	**NR**	4.9	3.1	145.24	0.6	0.5	159.7	2.82	81	92	139	2	162	7.3	2.57
N	**NR**	1.7	1.3	92.9	0.4	0.5	99.4	1.12	79	79.5	91	0.6	101	2.5	0.149
N	**NR**	2.5	1.3	102.6	0.4	0.5	110.7	1.12	80	82	100	1	112	3.3	0.364
—	—	—	—	—	—	—	—	—	79	—	111	0.6	—	—	0.463
N	**NR**	2.87	2.7	111.81	0.6	0.5	121.6	2.46	81.5	85.5	108.5	1	123	5	0.649
N	**NR**	4.06	3.1	125.22	0.6	0.5	139.7	2.82	83	90	122	1.5	141.5	6.5	1.19
N	**NR**	4.9	3.1	155.22	0.6	0.5	169.7	2.82	86	98.5	149	2	172	7.3	3.08

Notlar (1) Emniyet segmanı yuvalarının toleransları ve emniyet segmanı ölçüleri için, **A50** ile **A53** arasındaki sayfalara bakınız.

(2) Ağır eksenel yükler uygulandığında, yukarıdaki değerlerden d_a 'yı arttırınız ve D_a 'yı azaltınız.

Notlar

1. Çap Serisi 7 (çok ince kesitli rulmanlar) de mevcuttur, lütfen NSK'ya başvurunuz.
2. Döner dış bilezikli rulmanları kullanırken, rulmanlar keçeli, kapaklı ise veya emniyet segmanları varsa NSK'ya başvurunuz.

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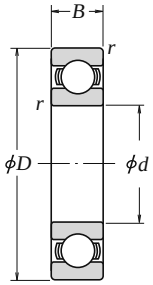
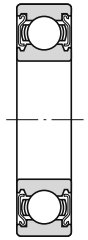
Delik Çapı 80 – 105 mm



Açık Tip



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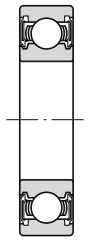

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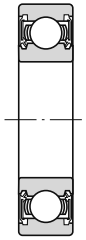
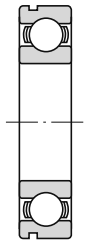


Temaslı Keçeli Tip DD · DDU



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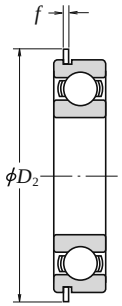

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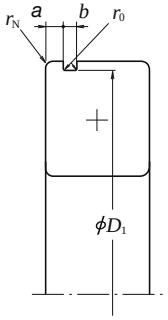

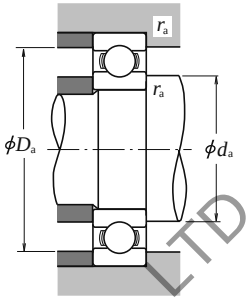

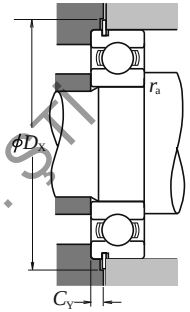

Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$\frac{f_0F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Statik Eşdeğer Yük

$\frac{F_a}{F_r} > 0.8,\ P_0 = 0.6F_r + 0.5F_a$

$\frac{F_a}{F_r} \leqq 0.8,\ P_0 = F_r$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Faktör	Limit Hızları (dak⁻¹) Gres		Yağ	Rulman Numaraları			
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Açık Z · ZZ V · VV	DU DDU	Açık Z	Açık	Kapaklı	Keçeli	
80	100	10	0.6	12 700	14 500	1 290	1 470	17.4	6 000	3 400	7 100	**6816**	**ZZ**	**VV**	**DDU**
	110	16	1	25 000	24 000	2 540	2 450	16.6	5 600	3 200	6 700	**6916**	**ZZ**	**VV**	**DDU**
	125	14	0.6	32 000	29 600	3 250	3 000	16.4	5 300	—	6 300	**16016**	—	—	—
	125	22	1.1	47 500	40 000	4 850	4 050	15.6	5 300	3 200	6 300	**6016**	**ZZ**	**VV**	**DDU**
	140	26	2	72 500	53 000	7 400	5 400	14.6	4 500	3 000	5 300	**6216**	**ZZ**	**VV**	**DDU**
	170	39	2.1	123 000	86 500	12 500	8 850	13.3	4 000	2 800	4 800	**6316**	**ZZ**	**VV**	**DDU**
85	110	13	1	18 700	20 000	1 910	2 040	17.1	5 600	3 200	6 700	**6817**	**ZZ**	**VV**	**DDU**
	120	18	1.1	32 000	29 600	3 250	3 000	16.4	5 300	3 000	6 300	**6917**	**ZZ**	**VV**	**DDU**
	130	14	0.6	33 000	31 500	3 350	3 200	16.5	5 000	—	6 000	**16017**	—	—	—
	130	22	1.1	49 500	43 000	5 050	4 400	15.8	5 000	3 000	6 000	**6017**	**ZZ**	**VV**	**DDU**
	150	28	2	84 000	62 000	8 550	6 300	14.5	4 300	2 800	5 000	**6217**	**ZZ**	**VV**	**DDU**
	180	41	3	133 000	97 000	13 500	9 850	13.3	3 800	2 600	4 500	**6317**	**ZZ**	**VV**	**DDU**
90	115	13	1	19 000	21 000	1 940	2 140	17.2	5 300	3 000	6 300	**6818**	**ZZ**	**VV**	**DDU**
	125	18	1.1	33 000	31 500	3 350	3 200	16.5	5 000	2 800	6 000	**6918**	**ZZ**	**VV**	**DDU**
	140	16	1	41 500	39 500	4 250	4 000	16.3	4 800	—	5 600	**16018**	—	—	—
	140	24	1.5	58 000	50 000	5 950	5 050	15.6	4 800	2 800	5 600	**6018**	**ZZ**	**VV**	**DDU**
	160	30	2	96 000	71 500	9 800	7 300	14.5	4 000	2 600	4 800	**6218**	**ZZ**	**VV**	**DDU**
	190	43	3	143 000	107 000	14 500	11 000	13.3	3 600	2 400	4 300	**6318**	**ZZ**	**VV**	**DDU**
95	120	13	1	19 300	22 000	1 970	2 240	17.2	5 000	2 800	6 000	**6819**	**ZZ**	**VV**	**DD**
	130	18	1.1	33 500	33 500	3 450	3 400	16.6	4 800	2 800	5 600	**6919**	**ZZ**	**VV**	**DDU**
	145	16	1	43 000	42 000	4 350	4 250	16.4	4 500	—	5 300	**16019**	—	—	—
	145	24	1.5	60 500	54 000	6 150	5 500	15.8	4 500	2 600	5 300	**6019**	**ZZ**	**VV**	**DDU**
	170	32	2.1	109 000	82 000	11 100	8 350	14.4	3 800	2 600	4 500	**6219**	**ZZ**	**VV**	**DDU**
	200	45	3	153 000	119 000	15 600	12 100	13.3	3 000	2 400	3 600	**6319**	**ZZ**	**VV**	**DDU**
100	125	13	1	19 600	23 000	2 000	2 340	17.3	4 800	2 800	5 600	**6820**	**ZZ**	**VV**	**DD**
	140	20	1.1	43 000	42 000	4 350	4 250	16.4	4 500	2 600	5 300	**6920**	**ZZ**	**VV**	**DDU**
	150	16	1	42 500	42 000	4 300	4 300	16.5	4 300	—	5 300	**16020**	—	—	—
	150	24	1.5	60 000	54 000	6 150	5 550	15.9	4 300	2 600	5 300	**6020**	**ZZ**	**VV**	**DDU**
	180	34	2.1	122 000	93 000	12 500	9 500	14.4	3 600	2 400	4 300	**6220**	**ZZ**	**VV**	**DDU**
	215	47	3	173 000	141 000	17 700	14 400	13.2	2 800	2 200	3 400	**6320**	**ZZ**	**VV**	**DDU**
105	130	13	1	19 800	23 900	2 020	2 440	17.4	4 800	2 600	5 600	**6821**	**ZZ**	**VV**	**DDU**
	145	20	1.1	42 500	42 000	4 300	4 300	16.5	4 300	—	5 300	**6921**	**ZZ**	**VV**	—
	160	18	1	52 000	50 500	5 300	5 150	16.3	4 000	—	4 800	**16021**	—	—	—
	160	26	2	72 500	66 000	7 400	6 700	15.8	4 000	2 400	4 800	**6021**	**ZZ**	**VV**	**DDU**
	190	36	2.1	133 000	105 000	13 600	10 700	14.4	3 400	2 200	4 000	**6221**	**ZZ**	**VV**	**DDU**
	225	49	3	184 000	154 000	18 700	15 700	13.2	2 600	2 000	3 200	**6321**	**ZZ**	—	**DDU**

Emniyet Segman Yuvalı	Emniyet Segmanlı	Emniyet Segmanı Yuvası Ölçüleri (¹) (mm)					Emniyet Segmanı (¹) Ölçüleri (mm)		Dayanak ve Dolgu Ölçüleri (mm)						Kütle (kg)
		a maks.	b min.	D_1 maks.	r_0 maks.	r_N min.	D_2 maks.	f maks.	d_a(²) min.	d_a(²) maks.	D_a(²) maks.	r_a maks.	D_x min.	C_Y maks.	yaklaşık
N	**NR**	1.7	1.3	97.9	0.4	0.5	104.4	1.12	84	84.5	96	0.6	106	2.5	0.151
N	**NR**	2.5	1.3	107.6	0.4	0.5	115.7	1.12	85	87.5	105	1	117	3.3	0.391
—	—	—	—	—	—	—	—	—	84	—	121	0.6	—	—	0.621
N	**NR**	2.87	3.1	120.22	0.6	0.5	134.7	2.82	86.5	91	118.5	1	136.5	5.3	0.872
N	**NR**	4.9	3.1	135.23	0.6	0.5	149.7	2.82	89	95.5	131	2	152	7.3	1.42
N	**NR**	5.69	3.5	163.65	0.6	0.5	182.9	3.1	91	104.5	159	2	185	8.4	3.67
N	**NR**	2.1	1.3	107.6	0.4	0.5	115.7	1.12	90	90.5	105	1	117	2.9	0.263
N	**NR**	3.3	1.3	117.6	0.4	0.5	125.7	1.12	91.5	94.5	113.5	1	127	4.1	0.55
—	—	—	—	—	—	—	—	—	89	—	126	0.6	—	—	0.652
N	**NR**	2.87	3.1	125.22	0.6	0.5	139.7	2.82	91.5	96	123.5	1	141.5	5.3	0.918
N	**NR**	4.9	3.1	145.24	0.6	0.5	159.7	2.82	94	102	141	2	162	7.3	1.76
N	**NR**	5.69	3.5	173.66	0.6	0.5	192.9	3.1	98	110.5	167	2.5	195	8.4	4.28
N	**NR**	2.1	1.3	112.6	0.4	0.5	120.7	1.12	95	95.5	110	1	122	2.9	0.276
N	**NR**	3.3	1.3	122.6	0.4	0.5	130.7	1.12	96.5	98.5	118.5	1	132	4.1	0.585
—	—	—	—	—	—	—	—	—	95	—	135	1	—	—	0.873
N	**NR**	3.71	3.1	135.23	0.6	0.5	149.7	2.82	98	103	132	1.5	152	6.1	1.19
N	**NR**	4.9	3.1	155.22	0.6	0.5	169.7	2.82	99	107.5	151	2	172	7.3	2.18
N	**NR**	5.69	3.5	183.64	0.6	0.5	202.9	3.1	103	117	177	2.5	205	8.4	4.98
N	**NR**	2.1	1.3	117.6	0.4	0.5	125.7	1.12	100	101.5	115	1	127	2.9	0.297
N	**NR**	3.3	1.3	127.6	0.4	0.5	135.7	1.12	101.5	103.5	123.5	1	137	4.1	0.601
—	—	—	—	—	—	—	—	—	100	—	140	1	—	—	0.904
N	**NR**	3.71	3.1	140.23	0.6	0.5	154.7	2.82	103	108.5	137	1.5	157	6.1	1.23
N	**NR**	5.69	3.5	163.65	0.6	0.5	182.9	3.1	106	114	159	2	185	8.4	2.64
N	**NR**	5.69	3.5	193.65	0.6	0.5	212.9	3.1	108	123.5	187	2.5	215	8.4	5.76
N	**NR**	2.1	1.3	122.6	0.4	0.5	130.7	1.12	105	105.5	120	1	132	2.9	0.31
N	**NR**	3.3	1.9	137.6	0.6	0.5	145.7	1.7	106.5	111	133.5	1	147	4.7	0.828
—	—	—	—	—	—	—	—	—	105	—	145	1	—	—	0.945
N	**NR**	3.71	3.1	145.24	0.6	0.5	159.7	2.82	108	112.5	142	1.5	162	6.1	1.29
N	**NR**	5.69	3.5	173.66	0.6	0.5	192.9	3.1	111	121.5	169	2	195	8.4	3.17
—	—	—	—	—	—	—	—	—	113	133	202	2.5	—	—	7.04
N	**NR**	2.1	1.3	127.6	0.4	0.5	135.7	1.12	110	110.5	125	1	137	2.9	0.324
N	**NR**	3.3	1.9	142.6	0.6	0.5	150.7	1.7	111.5	116	138.5	1	152	4.7	0.856
—	—	—	—	—	—	—	—	—	110	—	155	1	—	—	1.24
N	**NR**	3.71	3.1	155.22	0.6	0.5	169.7	2.82	114	120	151	2	172	6.1	1.58
N	**NR**	5.69	3.5	183.64	0.6	0.5	202.9	3.1	116	127.5	179	2	205	8.4	3.79
—	—	—	—	—	—	—	—	—	118	138	212	2.5	—	—	8.09

Notlar (¹) Emniyet segmanı yuvalarının toleransları ve emniyet segmanı ölçüleri için, **A50** ile **A53** arasındaki sayfalara bakınız.

(²) Ağır eksenel yükler uygulandığında, yukarıdaki değerlerden d_a 'yı arttırınız ve D_a 'yı azaltınız.

Notlar

1. Çap Serisi 7 (çok ince kesitli rulmanlar) de mevcuttur, lütfen NSK'ya başvurunuz.
2. Döner dış bilezikli rulmanları kullanırken, rulmanlar keçeli, kapaklı ise veya emniyet segmanları varsa NSK'ya başvurunuz.

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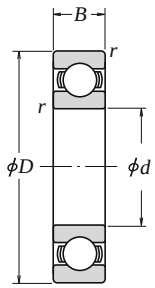
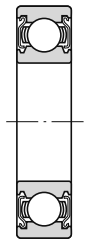
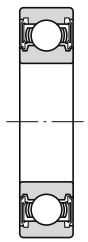
Delik Çapı 110 – 160 mm



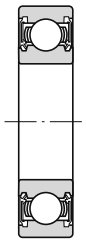
Açık Tip



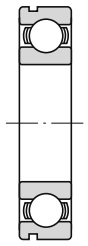
Kapaklı Tip
ZZ · ZZS



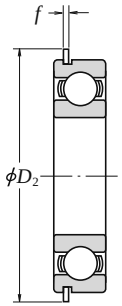
Temassız
Keçeli Tip
VV



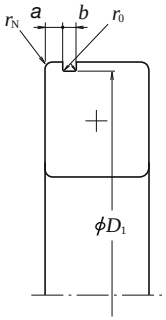
Temaslı
Keçeli Tip
DD · DDU

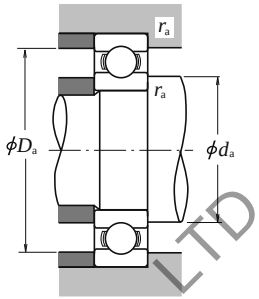


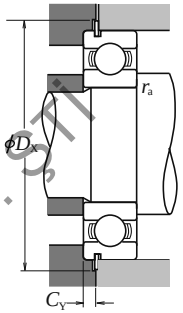
Emniyet
Segman Yuvalı
N



Emniyet
Segmanlı
NR







Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$\frac{f_0F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Statik Eşdeğer Yük

$\frac{F_a}{F_r} > 0.8,\ P_0 = 0.6F_r + 0.5F_a$

$\frac{F_a}{F_r} \leqq 0.8,\ P_0 = F_r$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Faktör	Limit Hızları (dak⁻¹) Gres		Yağ	Rulman Numaraları			
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Açık Z · ZZ V · VV	DU DDU	Açık Z	Açık	Kapaklı	Keçeli	
110	140	16	1	28 100	32 500	2 860	3 350	17.1	4 300	2 400	5 300	**6822**	**ZZ**	**VV**	**DDU**
	150	20	1.1	43 500	44 500	4 450	4 550	16.6	4 300	2 400	5 000	**6922**	**ZZ**	**VV**	**DDU**
	170	19	1	57 500	56 500	5 850	5 800	16.3	3 800	—	4 500	**16022**	—	—	—
	170	28	2	85 000	73 000	8 650	7 450	15.5	3 800	2 200	4 500	**6022**	**ZZ**	**VV**	**DDU**
	200	38	2.1	144 000	117 000	14 700	11 900	14.3	2 800	2 200	3 400	**6222**	**ZZ**	**VV**	**DDU**
	240	50	3	205 000	179 000	20 900	18 300	13.2	2 400	—	3 000	**6322**	**ZZ**	—	—
120	150	16	1	28 900	35 500	2 950	3 650	17.3	4 000	2 200	4 800	**6824**	**ZZ**	**VV**	**DD**
	165	22	1.1	53 000	54 000	5 400	5 500	16.5	3 800	—	4 500	**6924**	**ZZ**	—	—
	180	19	1	56 500	57 500	5 800	5 850	16.5	3 600	—	4 300	**16024**	—	—	—
	180	28	2	88 000	80 000	9 000	8 150	15.7	3 600	2 200	4 300	**6024**	**ZZ**	**VV**	**DDU**
	215	40	2.1	155 000	131 000	15 800	13 400	14.4	2 600	2 000	3 200	**6224**	**ZZ**	**VV**	**DDU**
	260	55	3	207 000	185 000	21 100	18 800	13.5	2 200	1 800	2 800	**6324**	**ZZS**	—	**DDU**
130	165	18	1.1	37 000	44 000	3 750	4 450	17.1	3 600	2 000	4 300	**6826**	**ZZS**	**VV**	**DD**
	180	24	1.5	65 000	67 500	6 650	6 850	16.5	3 400	—	4 000	**6926**	**ZZ**	—	—
	200	22	1.1	75 500	77 500	7 700	7 900	16.4	3 000	—	3 600	**16026**	—	—	—
	200	33	2	106 000	101 000	10 800	10 300	15.8	3 000	1 900	3 600	**6026**	**ZZ**	—	**DDU**
	230	40	3	167 000	146 000	17 000	14 900	14.5	2 400	—	3 000	**6226**	**ZZ**	—	—
	280	58	4	229 000	214 000	23 400	21 800	13.6	2 200	—	2 600	**6326**	**ZZS**	—	—
140	175	18	1.1	38 500	48 000	3 900	4 850	17.3	3 400	1 900	4 000	**6828**	**ZZ**	**VV**	**DDU**
	190	24	1.5	66 500	72 000	6 800	7 300	16.6	3 200	—	3 800	**6928**	**ZZS**	**VV**	—
	210	22	1.1	77 500	82 500	7 900	8 400	16.5	2 800	—	3 400	**16028**	—	—	—
	210	33	2	110 000	109 000	11 200	11 100	16.0	2 800	1 800	3 400	**6028**	**ZZ**	—	**DDU**
	250	42	3	166 000	150 000	17 000	15 300	14.9	2 200	1 700	2 800	**6228**	**ZZS**	—	**DDU**
	300	62	4	253 000	246 000	25 800	25 100	13.6	2 000	—	2 400	**6328**	**ZZS**	—	—
150	190	20	1.1	47 500	58 500	4 850	5 950	17.1	3 200	1 800	3 800	**6830**	**ZZ**	**VV**	**DDU**
	210	28	2	85 000	90 500	8 650	9 200	16.5	2 600	1 700	3 200	**6930**	**ZZS**	—	**DDU**
	225	24	1.1	84 000	91 000	8 550	9 250	16.6	2 600	—	3 000	**16030**	—	—	—
	225	35	2.1	126 000	126 000	12 800	12 800	15.9	2 600	1 700	3 000	**6030**	**ZZ**	**VV**	**DDU**
	270	45	3	176 000	168 000	18 000	17 100	15.1	2 000	—	2 600	**6230**	**ZZS**	—	—
	320	65	4	274 000	284 000	28 000	28 900	13.9	1 800	—	2 200	**6330**	**ZZS**	—	—
160	200	20	1.1	48 500	61 000	4 950	6 250	17.2	2 600	1 700	3 200	**6832**	**ZZS**	**VV**	**DDU**
	220	28	2	87 000	96 000	8 850	9 800	16.6	2 600	1 600	3 000	**6932**	**ZZS**	—	**DDU**
	240	25	1.5	99 000	108 000	10 100	11 000	16.5	2 400	—	2 800	**16032**	—	—	—
	240	38	2.1	137 000	135 000	13 900	13 800	15.9	2 400	1 600	2 800	**6032**	**ZZ**	—	**DDU**
	290	48	3	185 000	186 000	18 900	19 000	15.4	1 900	—	2 400	**6232**	**ZZS**	—	—
	340	68	4	278 000	287 000	28 300	29 200	13.9	1 700	—	2 000	**6332**	**ZZS**	—	—

Emniyet Segman Yuvalı	Emniyet Segmanlı	Emniyet Segmanı Yuvası Ölçüleri (1) (mm)					Emniyet Segmanı (1) Ölçüleri (mm)		Dayanak ve Dolgu Ölçüleri (mm)						Kütle (kg)
		a maks.	b min.	D_1 maks.	r_0 maks.	r_N min.	D_2 maks.	f maks.	d_a(2) min.	d_a(2) maks.	D_a(2) maks.	r_a maks.	D_x min.	C_Y maks.	yaklaşık
N	**NR**	2.5	1.9	137.6	0.6	0.5	145.7	1.7	115	117	135	1	147	3.9	0.497
N	**NR**	3.3	1.9	147.6	0.6	0.5	155.7	1.7	116.5	121	143.5	1	157	4.7	0.893
—	—	—	—	—	—	—	—	—	115	—	165	1	—	—	1.51
N	**NR**	3.71	3.5	163.65	0.6	0.5	182.9	3.1	119	124.5	161	2	185	6.4	1.94
N	**NR**	5.69	3.5	193.65	0.6	0.5	212.9	3.1	121	134	189	2	215	8.4	4.45
—	—	—	—	—	—	—	—	—	123	147	227	2.5	—	—	9.51
N	**NR**	2.5	1.9	147.6	0.6	0.5	155.7	1.7	125	127	145	1	157	3.9	0.537
N	**NR**	3.7	1.9	161.8	0.6	0.5	171.5	1.7	126.5	132	158.5	1	173	5.1	1.21
—	—	—	—	—	—	—	—	—	125	—	175	1	—	—	1.6
N	**NR**	3.71	3.5	173.66	0.6	0.5	192.9	3.1	129	134.5	171	2	195	6.4	2.08
—	—	—	—	—	—	—	—	—	131	146	204	2	—	—	5.29
—	—	—	—	—	—	—	—	—	133	161	247	2.5	—	—	12.5
N	**NR**	3.3	1.9	161.8	0.6	0.5	171.5	1.7	136.5	138	158.5	1	173	4.7	0.758
N	**NR**	3.7	1.9	176.8	0.6	0.5	186.5	1.7	138	144	172	1.5	188	5.1	1.57
—	—	—	—	—	—	—	—	—	136.5	—	193.5	1	—	—	2.4
N	**NR**	5.69	3.5	193.65	0.6	0.5	212.9	3.1	139	148.5	191	2	215	8.4	3.26
—	—	—	—	—	—	—	—	—	143	157	217	2.5	—	—	5.96
—	—	—	—	—	—	—	—	—	146	175	264	3	—	—	15.2
N	**NR**	3.3	1.9	171.8	0.6	0.5	181.5	1.7	146.5	148.5	168.5	1	183	4.7	0.832
N	**NR**	3.7	1.9	186.8	0.6	0.5	196.5	1.7	148	153.5	182	1.5	198	5.1	1.67
—	—	—	—	—	—	—	—	—	146.5	—	203.5	1	—	—	2.84
—	—	—	—	—	—	—	—	—	149	158.5	201	2	—	—	3.48
—	—	—	—	—	—	—	—	—	153	171.5	237	2.5	—	—	7.68
—	—	—	—	—	—	—	—	—	156	187	284	3	—	—	18.5
N	**NR**	3.3	1.9	186.8	0.6	0.5	196.5	1.7	156.5	160	183.5	1	198	4.7	1.15
—	—	—	—	—	—	—	—	—	159	166	201	2	—	—	3.01
—	—	—	—	—	—	—	—	—	156.5	—	218.5	1	—	—	3.62
—	—	—	—	—	—	—	—	—	161	170	214	2	—	—	4.24
—	—	—	—	—	—	—	—	—	163	186	257	2.5	—	—	10
—	—	—	—	—	—	—	—	—	166	203	304	3	—	—	22.7
N	**NR**	3.3	1.9	196.8	0.6	0.5	206.5	1.7	166.5	170.5	193.5	1	208	4.7	1.23
—	—	—	—	—	—	—	—	—	169	176	211	2	—	—	2.71
—	—	—	—	—	—	—	—	—	168	—	232	1.5	—	—	4.2
—	—	—	—	—	—	—	—	—	171	181.5	229	2	—	—	5.15
—	—	—	—	—	—	—	—	—	173	202	277	2.5	—	—	12.8
—	—	—	—	—	—	—	—	—	176	215.5	324	3	—	—	26.2

Notlar (1) Emniyet segmanı yuvalarının toleransları ve emniyet segmanı ölçüleri için, **A50** ile **A53** arasındaki sayfalara bakınız.

(2) Ağır eksenel yükler uygulandığında, yukarıdaki değerlerden d_a 'yı arttırınız ve D_a 'yı azaltınız.

Notlar Döner dış bilezikli rulmanları kullanırken, rulmanlar keçeli, kapaklı ise veya emniyet segmanları varsa NSK'ya başvurunuz.

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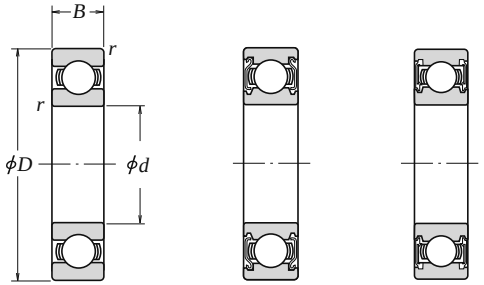
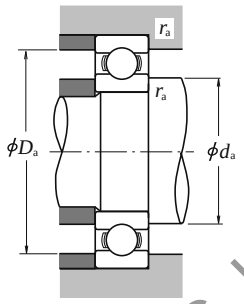
Delik Çapı 170 – 240 mm



Açık Tip

Kapaklı Tip
ZZS

Temassız
Keçeli Tip VV



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$\frac{f_0 F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Statik Eşdeğer Yük

$\frac{F_a}{F_r} > 0.8$, $P_0 = 0.6F_r + 0.5F_a$

$\frac{F_a}{F_r} \leqq 0.8$, $P_0 = F_r$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Faktör	Limit Hızları (dak⁻¹) Gres		Yağ	Rulman Numaraları				Dayanak ve Dolgu Ölçüleri (mm)				Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Açık Z · ZZ V · VV	DU DDU	Açık Z	Açık	Kapaklı	Keçeli		d_a(1) min.	d_a(1) maks.	D_a(1) maks.	r_a maks.	yaklaşık
170	215	22	1.1	60 000	75 000	6 100	7 650	17.1	2 600	1 600	3 000	**6834**	**ZZS**	**VV**	**DDU**	176.5	182	208.5	1	1.86
	230	28	2	86 000	97 000	8 750	9 850	16.7	2 400	—	2 800	**6934**	**ZZS**	—	—	179	186	221	2	3.34
	260	28	1.5	114 000	126 000	11 700	12 900	16.5	2 200	—	2 600	**16034**	—	—	—	178	—	252	1.5	5.71
	260	42	2.1	161 000	161 000	16 400	16 400	15.8	2 200	—	2 600	**6034**	**ZZS**	**VV**	—	181	194.5	249	2	6.89
	310	52	4	212 000	224 000	21 700	22 800	15.3	1 800	—	2 200	**6234**	**ZZS**	—	—	186	215	294	3	15.8
	360	72	4	325 000	355 000	33 500	36 000	13.6	1 600	—	2 000	**6334**	—	—	—	186	—	344	3	36.6
180	225	22	1.1	60 500	78 500	6 200	8 000	17.2	2 400	—	2 800	**6836**	—	**VV**	—	186.5	192	218.5	1	1.98
	250	33	2	119 000	128 000	12 100	13 100	16.4	2 200	—	2 600	**6936**	**ZZS**	—	—	189	198.5	241	2	4.16
	280	31	2	145 000	157 000	14 700	16 000	16.3	2 000	—	2 400	**16036**	—	—	—	189	—	271	2	7.5
	280	46	2.1	180 000	185 000	18 400	18 800	15.6	2 000	—	2 400	**6036**	**ZZS**	**VV**	—	191	208	269	2	8.88
	320	52	4	227 000	241 000	23 200	24 600	15.1	1 700	—	2 000	**6236**	**ZZS**	—	—	196	223	304	3	15.9
	380	75	4	355 000	405 000	36 000	41 500	13.9	1 500	—	1 800	**6336**	—	—	—	196	—	364	3	43.1
190	240	24	1.5	73 000	93 500	7 450	9 550	17.1	2 200	—	2 600	**6838**	—	**VV**	—	198	202.5	232	1.5	2.53
	260	33	2	113 000	127 000	11 500	13 000	16.6	2 200	—	2 600	**6938**	—	—	—	199	—	251	2	5.18
	290	31	2	149 000	168 000	15 200	17 100	16.4	2 000	—	2 400	**16038**	—	—	—	199	—	281	2	7.78
	290	46	2.1	188 000	201 000	19 200	20 500	15.8	2 000	—	2 400	**6038**	**ZZS**	—	—	201	218	279	2	9.39
	340	55	4	255 000	282 000	26 000	28 700	15.0	1 600	—	2 000	**6238**	**ZZS**	—	—	206	236	324	3	22.3
	400	78	5	355 000	415 000	36 000	42 500	14.1	1 400	—	1 700	**6338**	—	—	—	210	—	380	4	49.7
200	250	24	1.5	74 000	98 000	7 550	10 000	17.2	2 200	—	2 600	**6840**	—	—	—	208	—	242	1.5	2.67
	280	38	2.1	143 000	158 000	14 600	16 100	16.4	2 000	—	2 400	**6940**	**ZZS**	—	—	211	222	269	2	7.28
	310	34	2	161 000	180 000	16 400	18 300	16.4	1 900	—	2 200	**16040**	—	—	—	209	—	301	2	10
	310	51	2.1	207 000	226 000	21 100	23 000	15.6	1 900	—	2 200	**6040**	**ZZS**	—	—	211	231.5	299	2	12
	360	58	4	269 000	310 000	27 400	31 500	15.2	1 500	—	1 800	**6240**	**ZZS**	—	—	216	252	344	3	26.7
	420	80	5	380 000	445 000	38 500	45 500	13.8	1 300	—	1 600	**6340**	—	—	—	220	—	400	4	55.3
220	270	24	1.5	76 500	107 000	7 800	10 900	17.4	1 900	—	2 400	**6844**	**ZZS**	—	—	228	233.5	262	1.5	2.9
	300	38	2.1	146 000	169 000	14 900	17 300	16.6	1 800	—	2 200	**6944**	**ZZS**	—	—	231	242	289	2	7.88
	340	37	2.1	180 000	217 000	18 400	22 100	16.5	1 600	—	2 000	**16044**	—	—	—	231	—	329	2	13.1
	340	56	3	235 000	271 000	24 000	27 600	15.6	1 700	—	2 000	**6044**	**ZZS**	—	—	233	254.5	327	2.5	18.6
	400	65	4	310 000	375 000	31 500	38 500	15.1	1 300	—	1 600	**6244**	—	—	—	236	—	384	3	37.4
	460	88	5	410 000	520 000	42 000	53 000	14.3	1 200	—	1 500	**6344**	—	—	—	240	—	440	4	73.9
240	300	28	2	98 500	137 000	10 000	14 000	17.3	1 700	—	2 000	**6848**	—	—	—	249	—	291	2	4.48
	320	38	2.1	154 000	190 000	15 700	19 400	16.8	1 700	—	2 000	**6948**	**ZZS**	—	—	251	262	309	2	8.49
	360	37	2.1	196 000	243 000	19 900	24 700	16.5	1 500	—	1 900	**16048**	—	—	—	251	—	349	2	13.9
	360	56	3	244 000	296 000	24 900	30 000	15.9	1 500	—	1 900	**6048**	—	—	—	253	—	347	2.5	19.9
	440	72	4	340 000	430 000	34 500	44 000	15.2	1 200	—	1 500	**6248**	—	—	—	256	—	424	3	50.5
	500	95	5	470 000	625 000	48 000	63 500	14.2	1 100	—	1 300	**6348**	—	—	—	260	—	480	4	94.4

Not (1) Ağır eksenel yükler uygulandığında, yukarıdaki değerlerden d_a 'yı arttırınız ve D_a 'yı azaltınız.

Notlar Döner dış bilezikli rulmanları kullanırken, rulmanlar keçeli veya kapaklı ise NSK'ya başvurunuz.

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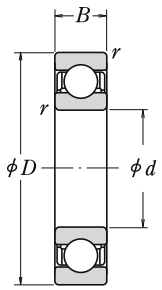
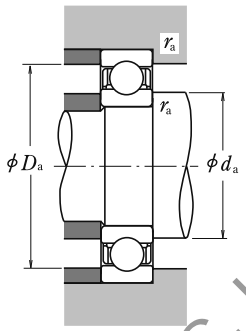
Delik Çapı 260 – 360 mm



Açık Tip



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$\frac{f_0 F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Statik Eşdeğer Yük

$\frac{F_a}{F_r} > 0.8$, $P_0 = 0.6F_r + 0.5F_a$

$\frac{F_a}{F_r} \leqq 0.8$, $P_0 = F_r$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Faktör	Limit Hızları (dak⁻¹)		Rulman Numaraları	Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Gres	Yağ	Açık	d_a(1) min.	D_a(1) maks.	r_a maks.	yaklaşık
260	320	28	2	101 000	148 000	10 300	15 100	17.4	1 600	1 900	**6852**	269	311	2	4.84
	360	46	2.1	204 000	255 000	20 800	26 000	16.5	1 500	1 800	**6952**	271	349	2	14
	400	44	3	237 000	310 000	24 100	31 500	16.4	1 400	1 700	**16052**	273	387	2.5	21.1
	400	65	4	291 000	375 000	29 700	38 500	15.8	1 400	1 700	**6052**	276	384	3	29.4
	480	80	5	400 000	540 000	41 000	55 000	15.1	1 100	1 300	**6252**	280	460	4	67
	540	102	6	505 000	710 000	51 500	72 500	14.6	1 000	1 200	**6352**	286	514	5	118
280	350	33	2	133 000	191 000	13 600	19 500	17.3	1 500	1 700	**6856**	289	341	2	7.2
	380	46	2.1	209 000	272 000	21 300	27 700	16.6	1 400	1 700	**6956**	291	369	2	15.1
	420	44	3	243 000	330 000	24 700	33 500	16.5	1 300	1 600	**16056**	293	407	2.5	22.7
	420	65	4	300 000	410 000	31 000	41 500	16.0	1 300	1 600	**6056**	296	404	3	31.2
	500	80	5	400 000	550 000	41 000	56 000	15.2	1 000	1 300	**6256**	300	480	4	70.4
	580	108	6	570 000	840 000	58 000	86 000	14.5	900	1 100	**6356**	306	554	5	144
300	380	38	2.1	166 000	233 000	17 000	23 800	17.1	1 300	1 600	**6860**	311	369	2	10.3
	420	56	3	269 000	370 000	27 400	38 000	16.4	1 300	1 500	**6960**	313	407	2.5	23.9
	460	50	4	285 000	405 000	29 000	41 000	16.4	1 200	1 400	**16060**	316	444	3	31.5
	460	74	4	355 000	500 000	36 500	51 000	15.8	1 200	1 400	**6060**	316	444	3	44.2
	540	85	5	465 000	670 000	47 500	68 500	15.1	950	1 200	**6260**	320	520	4	87.8
320	400	38	2.1	168 000	244 000	17 200	24 900	17.2	1 300	1 500	**6864**	331	389	2	10.8
	440	56	3	266 000	375 000	27 100	38 000	16.5	1 200	1 400	**6964**	333	427	2.5	25.3
	480	50	4	293 000	430 000	29 800	44 000	16.5	1 100	1 300	**16064**	336	464	3	33.2
	480	74	4	390 000	570 000	40 000	58 000	15.7	1 100	1 300	**6064**	336	464	3	46.5
	580	92	5	530 000	805 000	54 500	82 500	15.0	850	1 100	**6264**	340	560	4	111
340	420	38	2.1	175 000	265 000	17 800	27 100	17.3	1 200	1 400	**6868**	351	409	2	11.5
	460	56	3	273 000	400 000	27 800	40 500	16.6	1 100	1 300	**6968**	353	447	2.5	26.6
	520	82	5	440 000	660 000	45 000	67 500	15.6	1 000	1 200	**6068**	360	500	4	62.3
	620	92	6	530 000	820 000	54 000	83 500	15.3	800	1 000	**6268**	366	594	5	129
360	440	38	2.1	192 000	290 000	19 600	29 600	17.3	1 100	1 300	**6872**	371	429	2	11.8
	480	56	3	280 000	425 000	28 500	43 000	16.7	1 100	1 300	**6972**	373	467	2.5	27.9
	540	82	5	460 000	720 000	47 000	73 500	15.7	950	1 200	**6072**	380	520	4	65.3
	650	95	6	555 000	905 000	57 000	92 000	15.4	750	950	**6272**	386	624	5	145

Not (1) Ağır eksenel yükler uygulandığında, yukarıdaki değerlerden d_a 'yı arttırınız ve D_a 'yı azaltınız.

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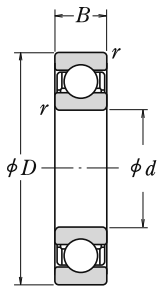
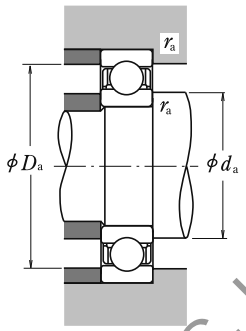
Delik Çapı 380 – 600 mm



Açık Tip



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$\frac{f_0F_a}{C_{0r}}$	e	$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.30
0.345	0.22	1	0	0.56	1.99
0.689	0.26	1	0	0.56	1.71
1.03	0.28	1	0	0.56	1.55
1.38	0.30	1	0	0.56	1.45
2.07	0.34	1	0	0.56	1.31
3.45	0.38	1	0	0.56	1.15
5.17	0.42	1	0	0.56	1.04
6.89	0.44	1	0	0.56	1.00

Statik Eşdeğer Yük

$\frac{F_a}{F_r} > 0.8$, $P_0 = 0.6F_r + 0.5F_a$

$\frac{F_a}{F_r} \leqq 0.8$, $P_0 = F_r$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Faktör	Limit Hızları (dak⁻¹)		Rulman Numaraları	Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Gres	Yağ	Açık	d_a(1) min.	D_a(1) maks.	r_a maks.	yaklaşık
380	480	46	2.1	238 000	375 000	24 200	38 000	17.1	1 000	1 200	**6876**	391	469	2	19.5
	520	65	4	325 000	510 000	33 000	52 000	16.6	950	1 200	**6976**	396	504	3	40
	560	82	5	455 000	725 000	46 500	74 000	15.9	900	1 100	**6076**	400	540	4	68
400	500	46	2.1	241 000	390 000	24 600	40 000	17.2	950	1 200	**6880**	411	489	2	20.5
	540	65	4	335 000	540 000	34 000	55 000	16.7	900	1 100	**6980**	416	524	3	42
	600	90	5	510 000	825 000	52 000	84 000	15.7	850	1 000	**6080**	420	580	4	88.4
420	520	46	2.1	245 000	410 000	25 000	41 500	17.3	900	1 100	**6884**	431	509	2	21.4
	560	65	4	340 000	570 000	35 000	58 500	16.8	900	1 100	**6984**	436	544	3	43.6
	620	90	5	530 000	895 000	54 000	91 000	15.8	800	1 000	**6084**	440	600	4	92.2
440	540	46	2.1	248 000	425 000	25 300	43 500	17.4	900	1 100	**6888**	451	529	2	22.3
	600	74	4	395 000	680 000	40 500	69 000	16.6	800	1 000	**6988**	456	584	3	60.2
	650	94	6	550 000	965 000	56 000	98 500	16.0	750	900	**6088**	466	624	5	106
460	580	56	3	310 000	550 000	31 500	56 000	17.1	800	1 000	**6892**	473	567	2.5	34.3
	620	74	4	405 000	720 000	41 500	73 500	16.7	800	950	**6992**	476	604	3	62.6
	680	100	6	605 000	1 080 000	62 000	110 000	15.8	710	850	**6092**	486	654	5	123
480	600	56	3	315 000	575 000	32 000	58 500	17.2	800	950	**6896**	493	587	2.5	35.4
	650	78	5	450 000	815 000	45 500	83 000	16.6	750	900	**6996**	500	630	4	73.5
	700	100	6	605 000	1 090 000	61 500	111 000	15.9	710	850	**6096**	506	674	5	127
500	620	56	3	320 000	600 000	33 000	61 000	17.3	750	900	**68/500**	513	607	2.5	37.2
	670	78	5	460 000	865 000	47 000	88 000	16.7	710	850	**69/500**	520	650	4	82
	720	100	6	630 000	1 170 000	64 000	120 000	16.0	670	800	**60/500**	526	694	5	131
530	650	56	3	325 000	625 000	33 000	63 500	17.4	710	850	**68/530**	543	637	2.5	39.8
	710	82	5	455 000	870 000	46 500	88 500	16.8	670	800	**69/530**	550	690	4	89.8
	780	112	6	680 000	1 300 000	69 500	133 000	16.0	600	750	**60/530**	556	754	5	184
560	680	56	3	330 000	650 000	33 500	66 500	17.4	670	800	**68/560**	573	667	2.5	41.5
	750	85	5	525 000	1 040 000	53 500	106 000	16.7	600	750	**69/560**	580	730	4	105
	820	115	6	735 000	1 500 000	75 000	153 000	16.2	560	670	**60/560**	586	793.5	5	203
600	730	60	3	355 000	735 000	36 000	75 000	17.5	600	710	**68/600**	613	717	2.5	50.9
	800	90	5	550 000	1 160 000	56 500	118 000	16.9	560	670	**69/600**	620	780	4	120
	870	118	6	790 000	1 640 000	80 500	168 000	16.1	530	630	**60/600**	626	844	5	236

Not (1) Ağır eksenel yükler uygulandığında, yukarıdaki değerlerden d_a 'yı arttırınız ve D_a 'yı azaltınız.

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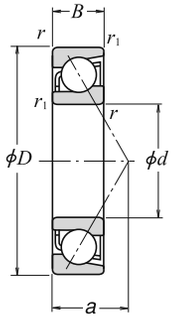
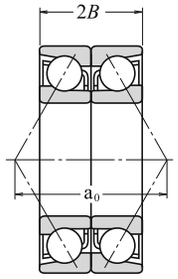
TEKLİ/EŞLEŞTİRİLMİŞ MONTAJLAR

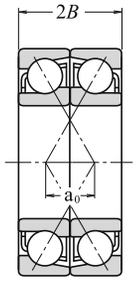
Delik Çapı 17 – 25 mm



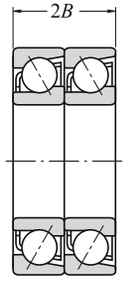
Tekli



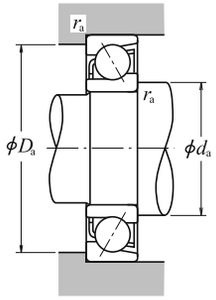
Sırt sırta
DB

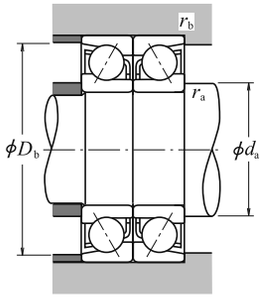


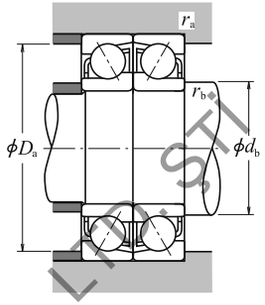
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	$if_0F_a^*/C_{0r}$	e	Tekli, DT $F_a/F_r \leq e$ X	Y	Tekli, DT $F_a/F_r > e$ X	Y	DB veya DF $F_a/F_r \leq e$ X	Y	DB veya DF $F_a/F_r > e$ X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT X_0	Tekli, DT Y_0	DB veya DF X_0	DB veya DF Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme Aşağıdaki durumda: $F_r > 0.5F_r + Y_0F_a$ $P_0 = F_r$'yi kullanın

Temel Ölçüler (mm) d	D	B	r min.	r_1 min.	Temel Yük Değerleri (Tekli) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Faktör f_0	Limit Hızlar (1) (dak⁻¹) Gres	Yağ	Etkili Yük Merkezleri (mm) a	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	D_a maks.	r_a maks.	Kütle (kg) yaklaşık
17	30	7	0.3	0.15	4 750	2 800	485	286	–	30 000	40 000	9.0	19.5	27.5	0.3	0.017
	30	7	0.3	0.15	5 000	2 940	510	299	14.8	34 000	48 000	6.6	19.5	27.5	0.3	0.017
	35	10	0.3	0.15	6 400	3 800	655	390	–	22 000	30 000	12.5	19.5	32.5	0.3	0.040
	35	10	0.3	0.15	6 600	3 800	675	390	14.5	32 000	43 000	8.5	19.5	32.5	0.3	0.044
	40	12	0.6	0.3	10 800	6 000	1 100	610	–	20 000	28 000	14.2	22	35	0.6	0.067
	40	12	0.6	0.3	9 950	5 500	1 010	565	–	14 000	19 000	18.0	22	35	0.6	0.068
	40	12	0.6	0.3	11 600	6 100	1 180	625	–	16 000	22 000	18.2	22	35	0.6	0.065
	40	12	0.6	0.3	10 900	5 850	1 110	595	13.3	28 000	38 000	9.8	22	35	0.6	0.075
	47	14	1	0.6	15 900	8 650	1 630	880	–	14 000	19 000	16.2	23	41	1	0.116
	47	14	1	0.6	14 800	8 000	1 510	820	–	13 000	17 000	20.4	23	41	1	0.118
	47	14	1	0.6	16 800	8 300	1 720	850	–	14 000	20 000	20.4	23	41	1	0.113
20	37	9	0.3	0.15	6 600	4 050	675	410	–	24 000	32 000	11.1	22.5	34.5	0.3	0.036
	37	9	0.3	0.15	6 950	4 250	710	430	14.9	28 000	38 000	8.3	22.5	34.5	0.3	0.036
	42	12	0.6	0.3	10 800	6 600	1 110	670	–	18 000	24 000	14.9	25	37	0.6	0.068
	42	12	0.6	0.3	11 100	6 550	1 130	665	14.0	26 000	36 000	10.1	25	37	0.6	0.076
	47	14	1	0.6	14 500	8 300	1 480	845	–	17 000	22 000	16.7	26	41	1	0.106
	47	14	1	0.6	13 300	7 650	1 360	780	–	12 000	16 000	21.1	26	41	1	0.109
	47	14	1	0.6	15 600	8 150	1 590	830	–	13 000	19 000	21.1	26	41	1	0.103
	47	14	1	0.6	14 600	8 050	1 480	825	13.3	24 000	34 000	11.5	26	41	1	0.118
	52	15	1.1	0.6	18 700	10 400	1 910	1 060	–	13 000	17 000	17.9	27	45	1	0.146
	52	15	1.1	0.6	17 300	9 650	1 770	985	–	11 000	15 000	22.6	27	45	1	0.15
	52	15	1.1	0.6	19 800	10 500	2 020	1 070	–	13 000	18 000	22.6	27	45	1	0.149
25	42	9	0.3	0.15	7 450	5 150	760	525	–	20 000	28 000	12.3	27.5	39.5	0.3	0.043
	42	9	0.3	0.15	7 850	5 400	800	555	15.5	24 000	34 000	9.0	27.5	39.5	0.3	0.042
	47	12	0.6	0.3	11 300	7 400	1 150	750	–	16 000	22 000	16.4	30	42	0.6	0.079
	47	12	0.6	0.3	11 700	7 400	1 190	755	14.7	22 000	30 000	10.8	30	42	0.6	0.089
	52	15	1	0.6	16 200	10 300	1 650	1 050	–	15 000	20 000	18.6	31	46	1	0.13
	52	15	1	0.6	14 800	9 400	1 510	960	–	10 000	14 000	23.7	31	46	1	0.133
	52	15	1	0.6	17 600	10 200	1 790	1 040	–	12 000	17 000	23.7	31	46	1	0.127
	52	15	1	0.6	16 600	10 200	1 690	1 040	14.0	22 000	28 000	12.7	31	46	1	0.143
	62	17	1.1	0.6	26 400	15 800	2 690	1 610	–	10 000	14 000	21.1	32	55	1	0.235

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2) Tekli	İkili	Temel Yük Değerleri (Eşleştirilmiş) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹) Gres	Yağ	Yük Merkezi Boşlukları (mm) a_0 DB	DF	Dayanak ve Dolgu Ölçüleri (mm) d_b (3) min.	D_b maks.	r_b (3) maks.
7903 A5	DB DF DT	7 750	5 600	790	570	24 000	32 000	18.0	4.0	–	28.8	0.15
7903 C	DB DF DT	8 150	5 850	830	600	28 000	38 000	13.3	0.7	–	28.8	0.15
7003 A	DB DF DT	10 400	7 650	1 060	780	17 000	24 000	25.0	5.0	18.2	33.8	0.15
7003 C	DB DF DT	10 700	7 600	1 100	775	26 000	34 000	17.0	3.0	–	33.8	0.15
7203 A	DB DF DT	17 600	12 000	1 790	1 220	16 000	22 000	28.5	4.5	19.5	37.5	0.3
7203 B	DB DF DT	16 100	11 000	1 650	1 130	11 000	15 000	35.9	11.9	19.5	37.5	0.3
* 7203 BEA		–	–	–	–	13 000	18 000	36.3	12.3	19.5	37.5	0.3
7203 C	DB DF DT	17 600	11 700	1 800	1 190	22 000	32 000	19.6	4.4	–	37.5	0.3
7303 A	DB DF DT	25 900	17 300	2 640	1 760	11 000	15 000	32.5	4.5	22	42	0.6
7303 B	DB DF DT	24 000	16 000	2 450	1 640	10 000	14 000	40.9	12.9	22	42	0.6
* 7303 BEA		–	–	–	–	11 000	16 000	40.9	12.9	22	42	0.6
7904 A5	DB DF DT	10 700	8 100	1 090	825	19 000	26 000	22.3	4.3	–	35.8	0.15
7904 C	DB DF DT	11 300	8 500	1 150	865	22 000	32 000	16.6	1.4	–	35.8	0.15
7004 A	DB DF DT	17 600	13 200	1 800	1 340	15 000	20 000	29.9	5.9	22.5	39.5	0.3
7004 C	DB DF DT	18 000	13 100	1 840	1 330	20 000	30 000	20.3	3.7	–	39.5	0.3
7204 A	DB DF DT	23 500	16 600	2 400	1 690	13 000	19 000	33.3	5.3	25	42	0.6
7204 B	DB DF DT	21 600	15 300	2 210	1 560	9 500	13 000	42.1	14.1	25	42	0.6
* 7204 BEA		–	–	–	–	11 000	16 000	42.1	14.1	25	42	0.6
7204 C	DB DF DT	23 600	16 100	2 410	1 650	19 000	26 000	23.0	5.0	–	42	0.6
7304 A	DB DF DT	30 500	20 800	3 100	2 130	10 000	13 000	35.8	5.8	25	47	0.6
7304 B	DB DF DT	28 200	19 300	2 870	1 970	9 000	12 000	45.2	15.2	25	47	0.6
* 7304 BEA		–	–	–	–	10 000	14 000	45.2	15.2	25	47	0.6
7905 A5	DB DF DT	12 100	10 300	1 230	1 050	16 000	22 000	24.6	6.6	–	40.8	0.15
7905 C	DB DF DT	12 700	10 800	1 300	1 110	19 000	26 000	18.0	0.0	–	40.8	0.15
7005 A	DB DF DT	18 300	14 800	1 870	1 510	13 000	17 000	32.8	8.8	27.5	44.5	0.3
7005 C	DB DF DT	19 000	14 800	1 940	1 510	18 000	26 000	21.6	2.4	–	44.5	0.3
7205 A	DB DF DT	26 300	20 500	2 690	2 090	12 000	16 000	37.2	7.2	30	47	0.6
7205 B	DB DF DT	24 000	18 800	2 450	1 920	8 500	11 000	47.3	17.3	30	47	0.6
* 7205 BEA		–	–	–	–	9 500	14 000	47.3	17.3	30	47	0.6
7205 C	DB DF DT	27 000	20 400	2 750	2 080	17 000	24 000	25.3	4.7	–	47	0.6
7305 A	DB DF DT	43 000	31 500	4 400	3 250	8 500	11 000	42.1	8.1	30	57	0.6

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min) ve r_a (maks) değerleri – ile işaretlenmiştir.
Notlar (*) ile işaretlenen rulmanlar HPS Serisi Eğik bilyalı rulmanlardır ve Rulman Numaraları'ndaki Duplex sütunu üniversal eşleşmeyi göstermektedir.

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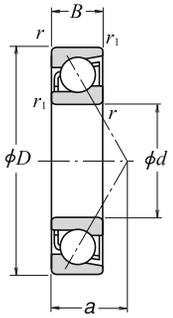
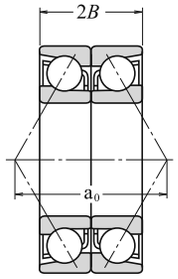
TEKLİ/EŞLEŞTİRİLMİŞ MONTAJLAR

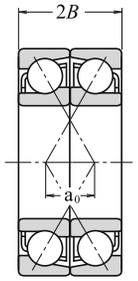
Delik Çapı 25 – 40 mm



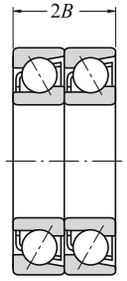
Tekli



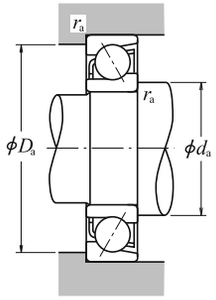
Sırt Sırta
DB

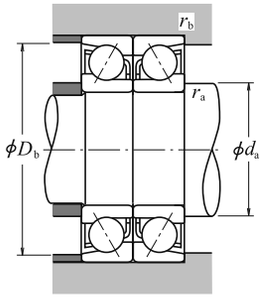


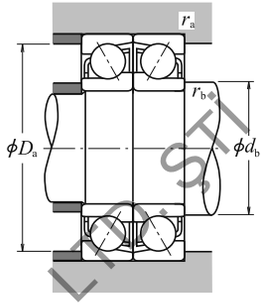
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	if_0F_a* / C_{0r}	e	Tekli, DT				DB veya DF			
			$F_a/F_r \leq e$		$F_a/F_r > e$		$F_a/F_r \leq e$		$F_a/F_r > e$	
			X	Y	X	Y	X	Y	X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT		DB veya DF	
	X_0	Y_0	X_0	Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme Aşağıdaki durumda: $F_r > 0.5F_r + Y_0F_a$ $P_0 = F_r$'yi kullanın

Temel Ölçüler (mm)					Temel Yük Değerleri (Tekli) (N)		{kgf}		Faktör	Limit Hızlar (1) (dak⁻¹)		Etkili Yük Merkezleri (mm)	Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg)
d	D	B	r min.	r_1 min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Gres	Yağ	a	d_a min.	D_a maks.	r_a maks.	yaklaşık
25	62	17	1.1	0.6	24 400	14 600	2 490	1 490	–	9 000	13 000	26.7	32	55	1	0.241
	62	17	1.1	0.6	27 200	14 900	2 770	1 520	–	10 000	15 000	26.8	32	55	1	0.229
30	47	9	0.3	0.15	7 850	5 950	800	605	–	18 000	24 000	13.5	32.5	44.5	0.3	0.049
	47	9	0.3	0.15	8 300	6 250	845	640	15.9	22 000	28 000	9.7	32.5	44.5	0.3	0.049
	55	13	1	0.6	14 500	10 100	1 480	1 030	–	13 000	18 000	18.8	36	49	1	0.116
	55	13	1	0.6	15 100	10 300	1 540	1 050	14.9	19 000	26 000	12.2	36	49	1	0.134
	62	16	1	0.6	22 500	14 800	2 300	1 510	–	12 000	17 000	21.3	36	56	1	0.197
	62	16	1	0.6	20 500	13 500	2 090	1 380	–	8 500	12 000	27.3	36	56	1	0.202
	62	16	1	0.6	23 700	14 300	2 420	1 460	–	10 000	14 000	27.3	36	56	1	0.194
	62	16	1	0.6	23 000	14 700	2 350	1 500	13.9	18 000	24 000	14.2	36	56	1	0.222
	72	19	1.1	0.6	33 500	20 900	3 450	2 130	–	9 000	12 000	24.2	37	65	1	0.346
	72	19	1.1	0.6	31 000	19 300	3 150	1 960	–	8 000	11 000	30.9	37	65	1	0.354
	72	19	1.1	0.6	36 500	20 600	3 700	2 100	–	9 000	13 000	30.9	37	65	1	0.336
35	55	10	0.6	0.3	11 400	8 700	1 170	885	–	15 000	20 000	15.5	40	50	0.6	0.074
	55	10	0.6	0.3	12 100	9 150	1 230	930	15.7	18 000	24 000	11.0	40	50	0.6	0.074
	62	14	1	0.6	18 300	13 400	1 870	1 370	–	12 000	16 000	21.0	41	56	1	0.153
	62	14	1	0.6	19 100	13 700	1 950	1 390	15.0	17 000	22 000	13.5	41	56	1	0.173
	72	17	1.1	0.6	29 700	20 100	3 050	2 050	–	10 000	14 000	23.9	42	65	1	0.287
	72	17	1.1	0.6	27 100	18 400	2 760	1 870	–	7 500	10 000	30.9	42	65	1	0.294
	72	17	1.1	0.6	32 500	19 600	3 300	1 990	–	8 500	12 000	30.9	42	65	1	0.271
	72	17	1.1	0.6	30 500	19 900	3 100	2 030	13.9	15 000	20 000	15.7	42	65	1	0.32
	80	21	1.5	1	40 000	26 300	4 050	2 680	–	8 000	10 000	27.1	44	71	1.5	0.464
	80	21	1.5	1	36 500	24 200	3 750	2 460	–	7 100	9 500	34.6	44	71	1.5	0.474
	80	21	1.5	1	40 500	24 400	4 100	2 490	–	8 000	11 000	34.6	44	71	1.5	0.451
40	62	12	0.6	0.3	14 300	11 200	1 460	1 140	–	14 000	18 000	17.9	45	57	0.6	0.11
	62	12	0.6	0.3	15 100	11 700	1 540	1 200	15.7	16 000	22 000	12.8	45	57	0.6	0.109
	68	15	1	0.6	19 500	15 400	1 990	1 570	–	10 000	14 000	23.1	46	62	1	0.19
	68	15	1	0.6	20 600	15 900	2 100	1 620	15.4	15 000	20 000	14.7	46	62	1	0.213
	80	18	1.1	0.6	35 500	25 100	3 600	2 560	–	9 500	13 000	26.3	47	73	1	0.375
	80	18	1.1	0.6	32 000	23 000	3 250	2 340	–	6 700	9 000	34.2	47	73	1	0.383

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2)		Temel Yük Değerleri (Eşleştirilmiş) (N)		{kgf}		Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹)		Yük Merkezi Boşlukları (mm) a_0		Dayanak ve Dolgu Ölçüleri (mm)		
Tekli	İkili	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	DB	DF	d_b (3) min.	D_b maks.	r_b (3) maks.
7305 B	**DB DF DT**	39 500	29 300	4 050	2 980	7 500	10 000	53.5	19.5	30	57	0.6
* **7305 BEA**		–	–	–	–	8 500	12 000	53.5	19.5	30	57	0.6
7906 A5	**DB DF DT**	12 800	11 900	1 300	1 210	14 000	19 000	27.0	9.0	–	45.8	0.15
7906 C	**DB DF DT**	13 500	12 500	1 380	1 280	17 000	24 000	19.3	1.3	–	45.8	0.15
7006 A	**DB DF DT**	23 600	20 200	2 410	2 060	11 000	15 000	37.5	11.5	35	50	0.6
7006 C	**DB DF DT**	24 600	20 500	2 510	2 090	15 000	22 000	24.4	1.6	–	50	0.6
7206 A	**DB DF DT**	36 500	29 500	3 750	3 000	10 000	13 000	42.6	10.6	35	57	0.6
7206 B	**DB DF DT**	33 500	27 000	3 400	2 760	7 100	9 500	54.6	22.6	35	57	0.6
* **7206 BEA**		–	–	–	–	8 000	11 000	54.6	22.6	35	57	0.6
7206 C	**DB DF DT**	37 500	29 300	3 800	2 990	14 000	20 000	28.3	3.7	–	57	0.6
7306 A	**DB DF DT**	54 500	41 500	5 600	4 250	7 100	9 500	48.4	10.4	35	67	0.6
7306 B	**DB DF DT**	50 500	38 500	5 150	3 950	6 300	8 500	61.8	23.8	35	67	0.6
* **7306 BEA**		–	–	–	–	7 100	10 000	61.8	23.8	35	67	0.6
7907 A5	**DB DF DT**	18 600	17 400	1 890	1 770	12 000	17 000	31.0	11.0	–	52.5	0.3
7907 C	**DB DF DT**	19 600	18 300	2 000	1 860	14 000	20 000	22.1	2.1	–	52.5	0.3
7007 A	**DB DF DT**	29 700	26 800	3 050	2 740	9 500	13 000	42.0	14.0	40	57	0.6
7007 C	**DB DF DT**	31 000	27 300	3 150	2 790	13 000	19 000	27.0	1.0	–	57	0.6
7207 A	**DB DF DT**	48 500	40 000	4 900	4 100	8 500	12 000	47.9	13.9	40	67	0.6
7207 B	**DB DF DT**	44 000	36 500	4 500	3 750	6 000	8 000	61.9	27.9	40	67	0.6
* **7207BEA**		–	–	–	–	6 700	9 500	61.9	27.9	40	67	0.6
7207 C	**DB DF DT**	49 500	40 000	5 050	4 050	12 000	17 000	31.3	2.7	–	67	0.6
7307 A	**DB DF DT**	65 000	52 500	6 600	5 350	6 300	8 500	54.2	12.2	41	74	1
7307 B	**DB DF DT**	59 500	48 500	6 100	4 950	5 600	7 500	69.2	27.2	41	74	1
* **7307 BEA**		–	–	–	–	6 300	9 000	69.2	27.2	41	74	1
7908 A5	**DB DF DT**	23 300	22 300	2 370	2 270	11 000	15 000	35.8	11.8	–	59.5	0.3
7908 C	**DB DF DT**	24 600	23 500	2 510	2 390	13 000	18 000	25.7	1.7	–	59.5	0.3
7008 A	**DB DF DT**	31 500	31 000	3 250	3 150	8 500	11 000	46.2	16.2	45	63	0.6
7008 C	**DB DF DT**	33 500	32 000	3 400	3 250	12 000	17 000	29.5	0.5	–	63	0.6
7208 A	**DB DF DT**	57 500	50 500	5 850	5 150	7 500	10 000	52.6	16.6	45	75	0.6
7208 B	**DB DF DT**	52 000	46 000	5 300	4 700	5 300	7 500	68.3	32.3	45	75	0.6

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min.) ve r_a (maks.) değerleri – ile işaretlenmiştir.
Notlar (*) ile işaretlenen rulmanlar HPS Serisi Eğik bilyalı rulmanlardır ve Rulman Numaraları'ndaki Duplex sütunu üniversal eşleşmeyi göstermektedir.

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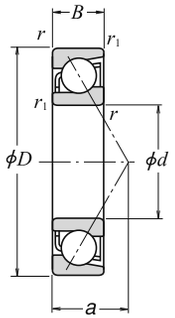
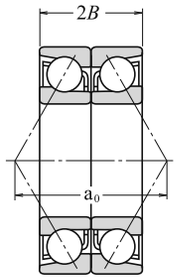
TEKLİ/EŞLEŞTİRİLMİŞ MONTAJLAR

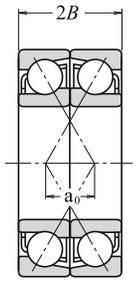
Delik Çapı 40 – 55 mm



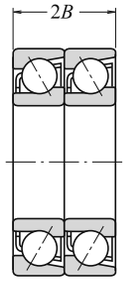
Tekli



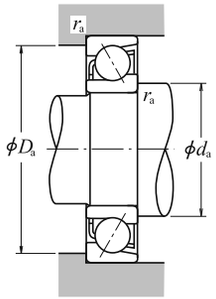
Sırt sırta
DB

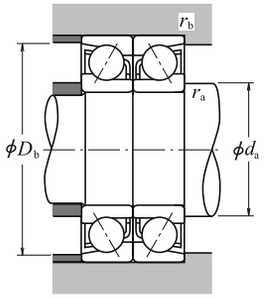


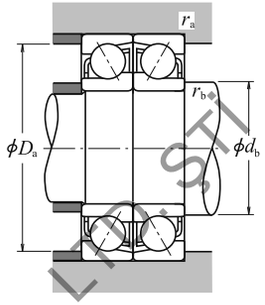
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	if_0F_a* / C_{0r}	e	Tekli, DT				DB veya DF			
			$F_a/F_r \leq e$		$F_a/F_r > e$		$F_a/F_r \leq e$		$F_a/F_r > e$	
			X	Y	X	Y	X	Y	X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT		DB veya DF	
	X_0	Y_0	X_0	Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme Aşağıdaki durumda: $F_r > 0.5F_r + Y_0F_a$ $P_0 = F_r$'yi kullanın

Temel Ölçüler (mm)					Temel Yük Değerleri (Tekli) (N)		{kgf}		Faktör	Limit Hızlar (1) (dak⁻¹)		Etkili Yük Merkezleri (mm)	Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg)
d	D	B	r min.	r_1 min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Gres	Yağ	a	d_a min.	D_a maks.	r_a maks.	yaklaşık
40	80	18	1.1	0.6	38 500	24 500	3 900	2 500	–	7 500	11 000	34.2	47	73	1	0.357
	80	18	1.1	0.6	36 500	25 200	3 700	2 570	14.1	14 000	19 000	17.0	47	73	1	0.418
	90	23	1.5	1	49 000	33 000	5 000	3 350	–	7 100	9 000	30.3	49	81	1.5	0.633
	90	23	1.5	1	45 000	30 500	4 550	3 100	–	6 300	8 500	38.8	49	81	1.5	0.648
	90	23	1.5	1	53 000	33 000	5 400	3 350	–	7 100	10 000	38.8	49	81	1.5	0.619
45	68	12	0.6	0.3	15 100	12 700	1 540	1 290	–	12 000	17 000	19.2	50	63	0.6	0.13
	68	12	0.6	0.3	16 000	13 400	1 630	1 360	16.0	14 000	20 000	13.6	50	63	0.6	0.129
	75	16	1	0.6	23 100	18 700	2 360	1 910	–	9 500	13 000	25.3	51	69	1	0.25
	75	16	1	0.6	24 400	19 300	2 490	1 960	15.4	14 000	19 000	16.0	51	69	1	0.274
	85	19	1.1	0.6	39 500	28 700	4 050	2 930	–	8 500	12 000	28.3	52	78	1	0.411
	85	19	1.1	0.6	36 000	26 200	3 650	2 680	–	6 300	8 500	36.8	52	78	1	0.421
	85	19	1.1	0.6	40 500	27 100	4 100	2 760	–	7 100	10 000	36.8	52	78	1	0.40
	85	19	1.1	0.6	41 000	28 800	4 150	2 940	14.2	12 000	17 000	18.2	52	78	1	0.468
	100	25	1.5	1	63 500	43 500	6 450	4 450	–	6 300	8 500	33.4	54	91	1.5	0.848
	100	25	1.5	1	58 500	40 000	5 950	4 100	–	5 600	7 500	42.9	54	91	1.5	0.869
	100	25	1.5	1	62 500	39 500	6 400	4 050	–	6 300	9 000	42.9	54	91	1.5	0.823
50	72	12	0.6	0.3	15 900	14 200	1 630	1 450	–	11 000	15 000	20.2	55	67	0.6	0.132
	72	12	0.6	0.3	16 900	15 000	1 720	1 530	16.2	13 000	18 000	14.2	55	67	0.6	0.13
	80	16	1	0.6	24 500	21 100	2 500	2 150	–	8 500	12 000	26.8	56	74	1	0.263
	80	16	1	0.6	26 000	21 900	2 650	2 230	15.7	12 000	17 000	16.7	56	74	1	0.293
	90	20	1.1	0.6	41 500	31 500	4 200	3 200	–	8 000	11 000	30.2	57	83	1	0.466
	90	20	1.1	0.6	37 500	28 600	3 800	2 920	–	5 600	8 000	39.4	57	83	1	0.477
	90	20	1.1	0.6	42 000	29 700	4 300	3 050	–	6 300	9 500	39.4	57	83	1	0.453
	90	20	1.1	0.6	43 000	31 500	4 350	3 250	14.5	12 000	16 000	19.4	57	83	1	0.528
	110	27	2	1	74 000	52 000	7 550	5 300	–	5 600	7 500	36.6	60	100	2	1.1
	110	27	2	1	68 000	48 000	6 950	4 900	–	5 000	6 700	47.1	60	100	2	1.12
	110	27	2	1	78 000	50 500	7 950	5 150	–	5 600	8 000	47.1	60	100	2	1.07
55	80	13	1	0.6	18 100	16 800	1 840	1 710	–	10 000	14 000	22.2	61	74	1	0.184
	80	13	1	0.6	19 100	17 700	1 950	1 810	16.3	12 000	16 000	15.5	61	74	1	0.182
	90	18	1.1	0.6	32 500	27 700	3 300	2 830	–	7 500	11 000	29.9	62	83	1	0.391

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2)		Temel Yük Değerleri (Eşleştirilmiş) (N)		{kgf}		Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹)		Yük Merkezi Boşlukları (mm) a_0		Dayanak ve Dolgu Ölçüleri (mm)		
Tekli	İkili	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	DB	DF	d_b (3) min.	D_b maks.	r_b (3) maks.
* **7208 BEA**		–	–	–	–	6 000	8 500	68.3	32.3	45	75	0.6
7208 C	**DB DF DT**	59 000	50 500	6 000	5 150	11 000	15 000	34.1	1.9	–	75	0.6
7308 A	**DB DF DT**	79 500	66 000	8 100	6 700	5 600	7 500	60.5	14.5	46	84	1
7308 B	**DB DF DT**	73 000	60 500	7 400	6 200	5 000	6 700	77.5	31.5	46	84	1
* **7308 BEA**		–	–	–	–	5 600	8 000	77.5	31.5	46	84	1
7909 A5	**DB DF DT**	24 600	25 400	2 510	2 590	9 500	13 000	38.4	14.4	–	65.5	0.3
7909 C	**DB DF DT**	26 000	26 800	2 660	2 730	12 000	16 000	27.1	3.1	–	65.5	0.3
7009 A	**DB DF DT**	37 500	37 500	3 850	3 800	7 500	10 000	50.6	18.6	50	70	0.6
7009 C	**DB DF DT**	39 500	38 500	4 050	3 950	11 000	15 000	32.1	0.1	–	70	0.6
7209 A	**DB DF DT**	64 500	57 500	6 550	5 850	7 100	9 500	56.5	18.5	50	80	0.6
7209 B	**DB DF DT**	58 500	52 500	5 950	5 350	5 000	6 700	73.5	35.5	50	80	0.6
* **7209 BEA**		–	–	–	–	5 600	8 000	73.5	35.5	50	80	0.6
7209 C	**DB DF DT**	66 500	57 500	6 750	5 850	10 000	14 000	36.4	1.6	–	80	0.6
7309 A	**DB DF DT**	103 000	87 000	10 500	8 900	5 000	6 700	66.9	16.9	51	94	1
7309 B	**DB DF DT**	95 000	80 500	9 650	8 200	4 500	6 000	85.8	35.8	51	94	1
* **7309 BEA**		–	–	–	–	5 000	7 100	85.8	35.8	51	94	1
7910 A5	**DB DF DT**	25 900	28 400	2 640	2 900	9 000	12 000	40.5	16.5	–	69.5	0.3
7910 C	**DB DF DT**	2 400	30 000	2 800	3 050	11 000	15 000	28.3	4.3	–	69.5	0.3
7010 A	**DB DF DT**	40 000	42 000	4 050	4 300	7 100	9 500	53.5	21.5	55	75	0.6
7010 C	**DB DF DT**	42 000	44 000	4 300	4 450	10 000	14 000	33.4	1.4	–	75	0.6
7210 A	**DB DF DT**	67 000	63 000	6 850	6 400	6 300	9 000	60.4	20.4	55	85	0.6
7210 B	**DB DF DT**	60 500	57 000	6 200	5 850	4 500	6 300	78.7	38.7	55	85	0.6
* **7210 BEA**		–	–	–	–	5 000	7 500	78.7	38.7	55	85	0.6
7210 C	**DB DF DT**	69 500	63 500	7 100	6 450	9 500	13 000	38.7	1.3	–	85	0.6
7310 A	**DB DF DT**	121 000	104 000	12 300	10 600	4 500	6 000	73.2	19.2	56	104	1
7310 B	**DB DF DT**	111 000	96 000	11 300	9 800	4 000	5 600	94.1	40.1	56	104	1
* **7310 BEA**		–	–	–	–	4 500	6 700	94.1	40.1	56	104	1
7911 A5	**DB DF DT**	29 300	33 500	2 990	3 400	8 000	11 000	44.5	18.5	–	75	0.6
7911 C	**DB DF DT**	31 000	35 500	3 150	3 600	9 500	13 000	31.1	5.1	–	75	0.6
7011 A	**DB DF DT**	52 500	55 500	5 350	5 650	6 300	8 500	59.9	23.9	60	85	0.6

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min.) ve r_a (maks.) değerleri – ile işaretlenmiştir.
Notlar (*) ile işaretlenen rulmanlar HPS Serisi Eğik bilyalı rulmanlardır ve Rulman Numaraları'ndaki Duplex sütunu üniversal eşleşmeyi göstermektedir.

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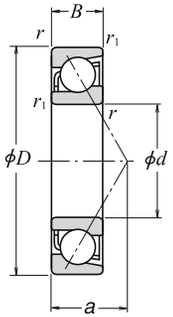
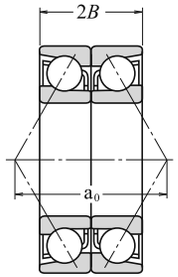
TEKLİ/EŞLEŞTİRİLMİŞ MONTAJLAR

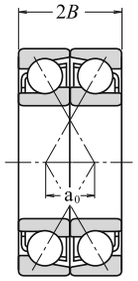
Delik Çapı 55 – 65 mm



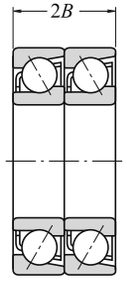
Tekli



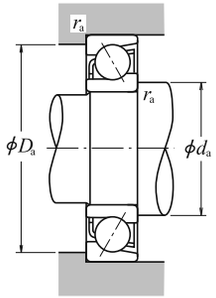
Sırt sırta
DB

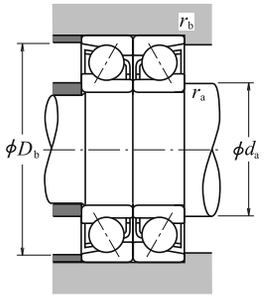


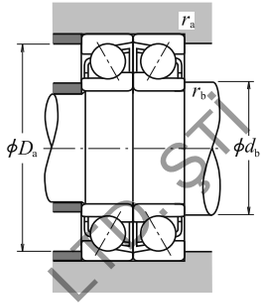
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	$if_0F_a^*/C_{0r}$	e	Tekli, DT $F_a/F_r \leq e$ X	Y	Tekli, DT $F_a/F_r > e$ X	Y	DB veya DF $F_a/F_r \leq e$ X	Y	DB veya DF $F_a/F_r > e$ X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT X_0	Y_0	DB veya DF X_0	Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme Aşağıdaki durumda: $F_r > 0.5F_r + Y_0F_a$ $P_0 = F_r$'yi kullanın

Temel Ölçüler (mm) d	D	B	r min.	r_1 min.	Temel Yük Değerleri (Tekli) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Faktör f_0	Limit Hızlar (1) (dak⁻¹) Gres	Yağ	Etkili Yük Merkezleri (mm) a	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	D_a maks.	r_a maks.	Kütle (kg) yaklaşık
55	90	18	1.1	0.6	34 000	28 600	3 500	2 920	15.5	11 000	15 000	18.7	62	83	1	0.43
	100	21	1.5	1	51 000	39 500	5 200	4 050	–	7 100	10 000	32.9	64	91	1.5	0.613
	100	21	1.5	1	46 500	36 000	4 700	3 700	–	5 300	7 100	43.0	64	91	1.5	0.627
	100	21	1.5	1	51 500	37 000	5 250	3 800	–	6 000	8 500	43.0	64	91	1.5	0.596
	100	21	1.5	1	53 000	40 000	5 400	4 100	14.5	10 000	14 000	20.9	64	91	1.5	0.688
	120	29	2	1	86 000	61 500	8 750	6 250	–	5 000	6 700	39.8	65	110	2	1.41
	120	29	2	1	79 000	56 500	8 050	5 750	–	4 500	6 300	51.2	65	110	2	1.45
	120	29	2	1	89 000	58 500	9 100	6 000	–	5 000	7 500	51.2	65	110	2	1.36
60	85	13	1	0.6	18 300	17 700	1 870	1 810	–	9 500	13 000	23.4	66	79	1	0.197
	85	13	1	0.6	19 400	18 700	1 980	1 910	16.5	11 000	15 000	16.2	66	79	1	0.194
	95	18	1.1	0.6	33 000	29 500	3 350	3 000	–	7 100	10 000	31.4	67	88	1	0.417
	95	18	1.1	0.6	35 000	30 500	3 600	3 150	15.7	10 000	14 000	19.4	67	88	1	0.46
	110	22	1.5	1	62 000	48 500	6 300	4 950	–	6 700	9 000	35.5	69	101	1.5	0.798
	110	22	1.5	1	56 000	44 500	5 700	4 550	–	4 800	6 300	46.7	69	101	1.5	0.815
	110	22	1.5	1	61 500	45 000	6 300	4 600	–	5 300	7 500	46.7	69	101	1.5	0.791
	110	22	1.5	1	64 000	49 000	6 550	5 000	14.4	9 500	13 000	22.4	69	101	1.5	0.889
	130	31	2.1	1.1	98 000	71 500	10 000	7 250	–	4 800	6 300	42.9	72	118	2	1.74
	130	31	2.1	1.1	90 000	65 500	9 200	6 700	–	4 300	5 600	55.4	72	118	2	1.78
	130	31	2.1	1.1	102 000	68 500	10 500	7 000	–	4 800	6 700	55.4	72	118	2	1.7
65	90	13	1	0.6	19 100	19 400	1 940	1 980	–	9 000	12 000	24.6	71	84	1	0.211
	90	13	1	0.6	20 200	20 500	2 060	2 090	16.7	10 000	14 000	16.9	71	84	1	0.208
	100	18	1.1	0.6	35 000	33 000	3 550	3 350	–	6 700	9 500	32.8	72	93	1	0.455
	100	18	1.1	0.6	37 000	34 500	3 800	3 500	15.9	10 000	13 000	20.0	72	93	1	0.493
	120	23	1.5	1	70 500	58 000	7 150	5 900	–	6 000	8 500	38.2	74	111	1.5	1.03
	120	23	1.5	1	63 500	52 500	6 500	5 350	–	4 300	6 000	50.3	74	111	1.5	1.05
	120	23	1.5	1	70 000	53 500	7 150	5 450	–	4 800	7 100	50.3	74	111	1.5	1.01
	120	23	1.5	1	73 000	58 500	7 450	6 000	14.6	9 000	12 000	23.9	74	111	1.5	1.14
	140	33	2.1	1.1	111 000	82 000	11 300	8 350	–	4 300	6 000	46.1	77	128	2	2.12
	140	33	2.1	1.1	102 000	75 500	10 400	7 700	–	3 800	5 300	59.5	77	128	2	2.17
	140	33	2.1	1.1	114 000	77 000	11 600	7 850	–	4 300	6 300	59.5	77	128	2	2.09

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2) Tekli	İkili	Temel Yük Değerleri (Eşleştirilmiş) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹) Gres	Yağ	Yük Merkezi Boşlukları (mm) a_0 DB	DF	Dayanak ve Dolgu Ölçüleri (mm) d_b (3) min.	D_b maks.	r_b (3) maks.
7011 C	**DB DF DT**	55 500	57 500	5 650	5 850	9 000	12 000	37.4	1.4	–	85	0.6
7211 A	**DB DF DT**	83 000	79 000	8 450	8 050	6 000	8 000	65.7	23.7	61	94	1
7211 B	**DB DF DT**	75 000	72 000	7 650	7 350	4 000	5 600	86.0	44.0	61	94	1
* **7211 BEA**		–	–	–	–	4 500	6 700	86.0	44.0	61	94	1
7211 C	**DB DF DT**	86 000	80 000	8 800	8 150	8 500	12 000	41.7	0.3	–	94	1
7311 A	**DB DF DT**	139 000	123 000	14 200	12 500	4 000	5 600	79.5	21.5	61	114	1
7311 B	**DB DF DT**	128 000	113 000	13 100	11 500	3 600	5 000	102.4	44.4	61	114	1
* **7311 BEA**		–	–	–	–	4 000	6 000	102.4	44.4	61	114	1
7912 A5	**DB DF DT**	29 800	35 500	3 050	3 600	7 500	10 000	46.8	20.8	–	80	0.6
7912 C	**DB DF DT**	31 500	37 500	3 200	3 800	9 000	12 000	32.4	6.4	–	80	0.6
7012 A	**DB DF DT**	53 500	59 000	5 450	6 000	6 000	8 000	62.7	26.7	65	90	0.6
7012 C	**DB DF DT**	57 000	61 500	5 800	6 250	8 500	12 000	38.8	2.8	–	90	0.6
7212 A	**DB DF DT**	100 000	97 500	10 200	9 950	5 300	7 100	71.1	27.1	66	104	1
7212 B	**DB DF DT**	91 000	89 000	9 300	9 050	3 800	5 300	93.3	49.3	66	104	1
* **7212 BEA**		–	–	–	–	4 300	6 000	93.3	49.3	66	104	1
7212 C	**DB DF DT**	104 000	98 500	10 600	10 000	7 500	11 000	44.8	0.8	–	104	1
7312 A	**DB DF DT**	159 000	143 000	16 200	14 500	3 800	5 000	85.9	23.9	67	123	1
7312 B	**DB DF DT**	146 000	131 000	14 900	13 400	3 400	4 500	110.7	48.7	67	123	1
* **7312 BEA**		–	–	–	–	3 800	5 600	110.7	48.7	67	123	1
7913 A5	**DB DF DT**	31 000	39 000	3 150	3 950	7 100	9 500	49.1	23.1	–	85	0.6
7913 C	**DB DF DT**	33 000	41 000	3 350	4 200	8 500	12 000	33.8	7.8	–	85	0.6
7013 A	**DB DF DT**	56 500	65 500	5 750	6 700	5 600	7 500	65.6	29.6	70	95	0.6
7013 C	**DB DF DT**	60 500	68 500	6 150	7 000	8 000	11 000	40.1	4.1	–	95	0.6
7213 A	**DB DF DT**	114 000	116 000	11 600	11 800	4 800	6 700	76.4	30.4	71	114	1
7213 B	**DB DF DT**	103 000	105 000	10 500	10 700	3 400	4 800	100.6	54.6	71	114	1
* **7213 BEA**		–	–	–	–	3 800	5 600	100.6	54.6	71	114	1
7213 C	**DB DF DT**	119 000	117 000	12 100	12 000	7 100	9 500	47.8	1.8	–	114	1
7313 A	**DB DF DT**	180 000	164 000	18 400	16 700	3 600	4 800	92.2	26.2	72	133	1
7313 B	**DB DF DT**	166 000	151 000	16 900	15 400	3 200	4 300	119.0	53.0	72	133	1
* **7313 BEA**		–	–	–	–	3 600	5 000	119.0	53.0	72	133	1

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min.) ve r_a (maks.) değerleri – ile işaretlenmiştir.
Notlar (*) ile işaretlenen rulmanlar HPS Serisi Eğik bilyalı rulmanlardır ve Rulman Numaraları'ndaki Duplex sütunu üniversal eşleşmeyi göstermektedir.

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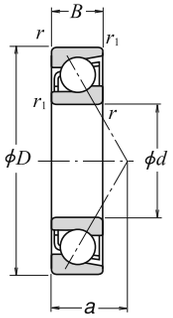
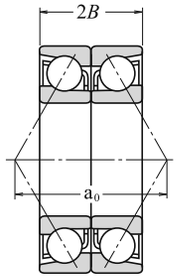
TEKLİ/EŞLEŞTİRİLMİŞ MONTAJLAR

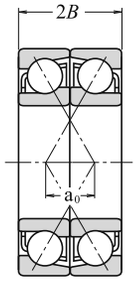
Delik Çapı 70 – 80 mm



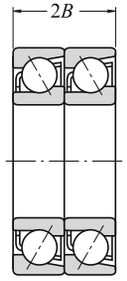
Tekli



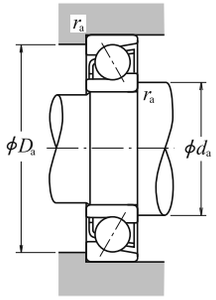
Sırt sırta
DB

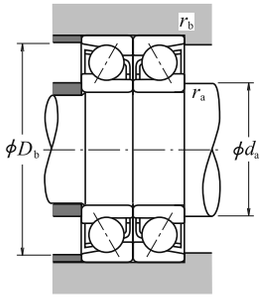


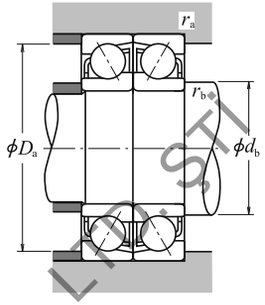
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	if_0F_a* / C_{or}	e	Tekli, DT $F_a/F_r \leq e$ X	Y	Tekli, DT $F_a/F_r > e$ X	Y	DB veya DF $F_a/F_r \leq e$ X	Y	DB veya DF $F_a/F_r > e$ X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın.

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT X_0	Y_0	DB veya DF X_0	Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme
Aşağıdaki durumda:
$F_r > 0.5F_r + Y_0F_a$
$P_0 = F_r$'yi kullanın

Temel Ölçüler (mm) d	D	B	r min.	r_1 min.	Temel Yük Değerleri (Tekli) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Faktör f_0	Limit Hızlar (1) (dak⁻¹) Gres	Yağ	Etkili Yük Merkezleri (mm) a	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	D_a maks.	r_a maks.	Kütle (kg) yaklaşık
70	100	16	1	0.6	26 500	26 300	2 710	2 680	–	8 000	11 000	27.8	76	94	1	0.341
	100	16	1	0.6	28 100	27 800	2 870	2 830	16.4	9 500	13 000	19.4	76	94	1	0.338
	110	20	1.1	0.6	44 000	41 500	4 500	4 200	–	6 300	8 500	36.0	77	103	1	0.625
	110	20	1.1	0.6	47 000	43 000	4 800	4 400	15.7	9 000	12 000	22.1	77	103	1	0.698
	125	24	1.5	1	76 500	63 500	7 800	6 500	–	5 600	8 000	40.1	79	116	1.5	1.11
	125	24	1.5	1	69 000	58 000	7 050	5 900	–	4 000	5 600	52.9	79	116	1.5	1.14
	125	24	1.5	1	75 500	58 500	7 700	6 000	–	4 500	6 700	52.9	79	116	1.5	1.08
	125	24	1.5	1	79 500	64 500	8 100	6 600	14.6	8 500	11 000	25.1	79	116	1.5	1.24
	150	35	2.1	1.1	125 000	93 500	12 700	9 550	–	4 000	5 300	49.3	82	138	2	2.6
	150	35	2.1	1.1	114 000	86 000	11 700	8 750	–	3 600	5 000	63.6	82	138	2	2.65
	150	35	2.1	1.1	124 000	87 500	12 600	8 900	–	4 000	6 000	63.7	82	138	2	2.53
75	105	16	1	0.6	26 900	27 700	2 750	2 820	–	7 500	10 000	29.0	81	99	1	0.355
	105	16	1	0.6	28 600	29 300	2 910	2 980	16.6	9 000	12 000	20.1	81	99	1	0.357
	115	20	1.1	0.6	45 000	43 500	4 600	4 450	–	6 000	8 000	37.4	82	108	1	0.661
	115	20	1.1	0.6	48 000	45 500	4 900	4 650	15.9	8 500	12 000	22.7	82	108	1	0.748
	130	25	1.5	1	76 000	64 500	7 750	6 550	–	5 600	7 500	42.1	84	121	1.5	1.19
	130	25	1.5	1	68 500	58 500	7 000	5 950	–	3 800	5 300	55.5	84	121	1.5	1.22
	130	25	1.5	1	78 500	63 500	8 000	6 450	–	4 300	6 300	55.5	84	121	1.5	1.18
	130	25	1.5	1	83 000	70 000	8 450	7 100	14.8	8 000	11 000	26.2	84	121	1.5	1.36
	160	37	2.1	1.1	136 000	106 000	13 800	10 800	–	3 800	5 000	52.4	87	148	2	3.13
	160	37	2.1	1.1	125 000	97 500	12 700	9 900	–	3 400	4 800	67.8	87	148	2	3.19
80	110	16	1	0.6	27 300	29 000	2 790	2 960	–	7 100	10 000	30.2	86	104	1	0.38
	110	16	1	0.6	29 000	30 500	2 960	3 150	16.7	8 500	12 000	20.7	86	104	1	0.376
	125	22	1.1	0.6	55 000	53 000	5 650	5 400	–	5 600	7 500	40.6	87	118	1	0.88
	125	22	1.1	0.6	58 500	55 500	6 000	5 650	15.7	8 000	11 000	24.7	87	118	1	0.966
	140	26	2	1	89 000	76 000	9 100	7 750	–	5 000	7 100	44.8	90	130	2	1.46
	140	26	2	1	80 500	69 500	8 200	7 050	–	3 600	5 000	59.1	90	130	2	1.49
	140	26	2	1	87 500	70 000	8 950	7 150	–	4 000	6 000	59.2	87	148	2	1.42
	140	26	2	1	93 000	77 500	9 450	7 900	14.7	7 500	10 000	27.7	90	130	2	1.63
	170	39	2.1	1.1	147 000	119 000	15 000	12 100	–	3 600	4 800	55.6	92	158	2	3.71
	170	39	2.1	1.1	135 000	109 000	13 800	11 100	–	3 200	4 300	71.9	92	158	2	3.79

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2) Tekli	İkili	Temel Yük Değerleri (Eşleştirilmiş) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹) Gres	Yağ	Yük Merkezi Boşlukları (mm) a_0 DB	DF	Dayanak ve Dolgu Ölçüleri (mm) d_b (3) min.	D_b maks.	r_b (3) maks.
7914 A5	**DB DF DT**	43 000	52 500	4 400	5 350	6 300	9 000	55.6	23.6	–	95	0.6
7914 C	**DB DF DT**	45 500	55 500	4 650	5 650	7 500	11 000	38.8	6.8	–	95	0.6
7014 A	**DB DF DT**	71 500	82 500	7 300	8 450	5 000	6 700	72.0	32.0	75	105	0.6
7014 C	**DB DF DT**	76 000	86 000	7 750	8 750	7 100	10 000	44.1	4.1	–	105	0.6
7214 A	**DB DF DT**	124 000	127 000	12 600	13 000	4 500	6 300	80.3	32.3	76	119	1
7214 B	**DB DF DT**	112 000	116 000	11 500	11 800	3 200	4 500	105.8	57.8	76	119	1
* **7214 BEA**		–	–	–	–	3 600	5 300	105.8	57.8	76	119	1
7214 C	**DB DF DT**	129 000	129 000	13 200	13 200	6 700	9 000	50.1	2.1	–	119	1
7314 A	**DB DF DT**	203 000	187 000	20 700	19 100	3 200	4 500	98.5	28.5	77	143	1
7314 B	**DB DF DT**	186 000	172 000	19 000	17 500	2 800	4 000	127.3	57.3	77	143	1
* **7314 BEA**		–	–	–	–	3 200	4 800	127.3	57.3	77	143	1
7915 A5	**DB DF DT**	44 000	55 500	4 450	5 650	6 000	8 500	58.0	26.0	–	100	0.6
7915 C	**DB DF DT**	46 500	58 500	4 750	5 950	7 100	10 000	40.1	8.1	–	100	0.6
7015 A	**DB DF DT**	73 000	87 500	7 450	8 900	4 800	6 700	74.8	34.8	80	110	0.6
7015 C	**DB DF DT**	78 000	91 500	7 950	9 300	6 700	9 500	45.4	5.4	–	110	0.6
7215 A	**DB DF DT**	123 000	129 000	12 600	13 100	4 300	6 000	84.2	34.2	81	124	1
7215 B	**DB DF DT**	112 000	117 000	11 400	11 900	3 200	4 300	111.0	61.0	81	124	1
* **7215 BEA**		–	–	–	–	3 600	5 000	111.0	61.0	81	124	1
7215 C	**DB DF DT**	134 000	140 000	13 700	14 200	6 300	9 000	52.4	2.4	–	124	1
7315 A	**DB DF DT**	221 000	212 000	22 500	21 600	3 000	4 000	104.8	30.8	82	153	1
7315 B	**DB DF DT**	202 000	195 000	20 600	19 800	2 800	3 800	135.6	61.6	82	153	1
7916 A5	**DB DF DT**	44 500	58 000	4 550	5 900	5 600	8 000	60.3	28.3	–	105	0.6
7916 C	**DB DF DT**	47 000	61 500	4 800	6 250	6 700	9 500	41.5	9.5	–	105	0.6
7016 A	**DB DF DT**	89 500	106 000	9 150	10 800	4 300	6 000	81.2	37.2	85	120	0.6
7016 C	**DB DF DT**	95 500	111 000	9 700	11 300	6 300	9 000	49.4	5.4	–	120	0.6
7216 A	**DB DF DT**	145 000	152 000	14 700	15 600	4 000	5 600	89.5	37.5	86	134	1
7216 B	**DB DF DT**	131 000	139 000	13 300	14 100	2 800	4 000	118.3	66.3	86	134	1
* **7216 BEA**		–	–	–	–	3 200	4 800	118.3	66.3	82	153	1
7216 C	**DB DF DT**	151 000	155 000	15 400	15 800	6 000	8 000	55.5	3.5	–	134	1
7316 A	**DB DF DT**	239 000	238 000	24 400	24 200	2 800	3 800	111.2	33.2	87	163	1
7316 B	**DB DF DT**	219 000	218 000	22 400	22 300	2 600	3 400	143.9	65.9	87	163	1

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min.) ve r_a (maks.) değerleri – ile işaretlenmiştir.
Notlar (*) ile işaretlenen rulmanlar HPS Serisi Eğik bilyalı rulmanlardır ve Rulman Numaraları'ndaki Duplex sütunu üniversal eşleşmeyi göstermektedir.

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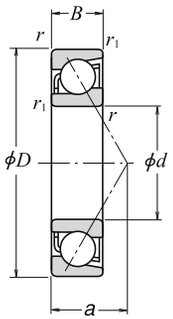
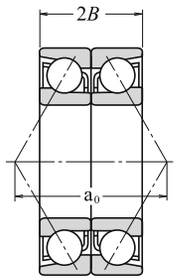
TEKLİ/EŞLEŞTİRİLMİŞ MONTAJLAR

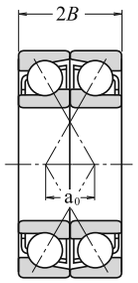
Delik Çapı 85 – 100 mm



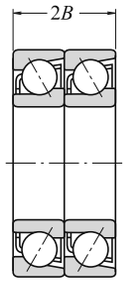
Tekli



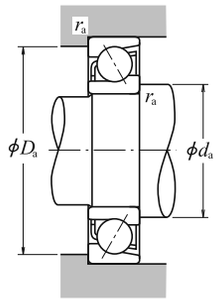
Sırt sırta
DB

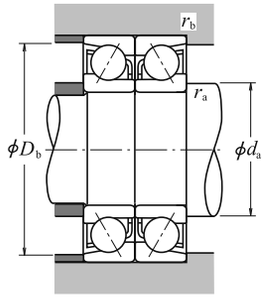


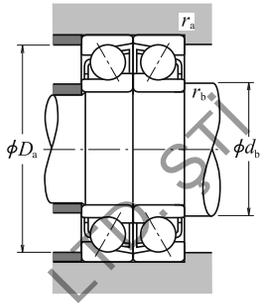
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	if_0F_a* / C_{or}	e	Tekli, DT				DB veya DF			
			$F_a/F_r \leq e$		$F_a/F_r > e$		$F_a/F_r \leq e$		$F_a/F_r > e$	
			X	Y	X	Y	X	Y	X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT		DB veya DF	
	X_0	Y_0	X_0	Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme
Aşağıdaki durumda:
$F_r > 0.5F_r + Y_0F_a$
$P_0 = F_r$'yi kullanın

Temel Ölçüler (mm)					Temel Yük Değerleri (Tekli) (N)		{kgf}		Faktör	Limit Hızlar (1) (dak⁻¹)		Etkili Yük Merkezleri (mm)	Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg)
d	D	B	r min.	r_1 min.	C_r	C_{0r}	C_r	C_{0r}	f_0	Gres	Yağ	a	d_a min.	D_a maks.	r_a maks.	yaklaşık
85	120	18	1.1	0.6	36 500	38 500	3 750	3 900	–	6 700	9 000	32.9	92	113	1	0.541
	120	18	1.1	0.6	39 000	40 500	3 950	4 150	16.5	8 000	11 000	22.7	92	113	1	0.534
	130	22	1.1	0.6	56 500	56 000	5 750	5 700	–	5 300	7 100	42.0	92	123	1	0.913
	130	22	1.1	0.6	60 000	58 500	6 150	6 000	15.9	7 500	10 000	25.4	92	123	1	1.01
	150	28	2	1	103 000	89 000	10 500	9 100	–	4 800	6 700	47.9	95	140	2	1.83
	150	28	2	1	93 000	81 000	9 500	8 250	–	3 400	4 800	63.3	95	140	2	1.87
	150	28	2	1	107 000	90 500	10 900	9 250	14.7	6 700	9 500	29.7	95	140	2	2.04
	180	41	3	1.1	159 000	133 000	16 200	13 500	–	3 400	4 500	58.8	99	166	2.5	4.33
	180	41	3	1.1	146 000	122 000	14 800	12 400	–	3 000	4 000	76.1	99	166	2.5	4.42
90	125	18	1.1	0.6	39 500	43 500	4 000	4 450	–	6 300	8 500	34.1	97	118	1	0.56
	125	18	1.1	0.6	41 500	46 000	4 250	4 700	16.6	7 500	10 000	23.4	97	118	1	0.563
	140	24	1.5	1	67 500	66 500	6 850	6 750	–	4 800	6 700	45.2	99	131	1.5	1.19
	140	24	1.5	1	71 500	69 000	7 300	7 050	15.7	7 100	9 500	27.4	99	131	1.5	1.34
	160	30	2	1	118 000	103 000	12 000	10 500	–	4 500	6 000	51.1	100	150	2	2.25
	160	30	2	1	107 000	94 000	10 900	9 550	–	3 200	4 300	67.4	100	150	2	2.29
	160	30	2	1	123 000	105 000	12 500	10 700	14.6	6 300	9 000	31.7	100	150	2	2.51
	190	43	3	1.1	171 000	147 000	17 400	15 000	–	3 200	4 300	61.9	104	176	2.5	5.06
	190	43	3	1.1	156 000	135 000	15 900	13 800	–	2 800	3 800	80.2	104	176	2.5	5.17
95	130	18	1.1	0.6	40 000	45 500	4 050	4 650	–	6 000	8 500	35.2	102	123	1	0.597
	130	18	1.1	0.6	42 500	48 000	4 300	4 900	16.7	7 100	10 000	24.1	102	123	1	0.591
	145	24	1.5	1	67 000	67 000	6 800	6 800	–	4 500	6 300	46.6	104	136	1.5	1.43
	145	24	1.5	1	73 500	73 000	7 500	7 450	15.9	6 700	9 000	28.1	104	136	1.5	1.42
	170	32	2.1	1.1	128 000	111 000	13 000	11 300	–	4 300	5 600	54.2	107	158	2	2.68
	170	32	2.1	1.1	116 000	101 000	11 800	10 300	–	3 000	4 000	71.6	107	158	2	2.74
	170	32	2.1	1.1	133 000	112 000	13 500	11 400	14.6	6 000	8 500	33.7	107	158	2	3.05
	200	45	3	1.1	183 000	162 000	18 600	16 600	–	3 000	4 000	65.1	109	186	2.5	5.83
	200	45	3	1.1	167 000	149 000	17 100	15 200	–	2 600	3 600	84.3	109	186	2.5	5.98
100	140	20	1.1	0.6	47 500	51 500	4 850	5 250	–	5 600	8 000	38.0	107	133	1	0.804
	140	20	1.1	0.6	50 000	54 000	5 100	5 550	16.5	6 700	9 000	26.1	107	133	1	0.794
	150	24	1.5	1	68 500	70 500	6 950	7 200	–	4 500	6 000	48.1	109	141	1.5	1.48

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2)				Temel Yük Değerleri (Eşleştirilmiş) (N)		{kgf}		Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹)		Yük Merkezi Boşlukları (mm) a_0		Dayanak ve Dolgu Ölçüleri (mm)		
Tekli	İkili			C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	DB	DF	d_b (3) min.	D_b maks.	r_b (3) maks.
7917 A5	**DB**	**DF**	**DT**	59 500	77 000	6 100	7 850	5 300	7 500	65.8	29.8	–	115	0.6
7917 C	**DB**	**DF**	**DT**	63 000	81 500	6 450	8 300	6 300	9 000	45.5	9.5	–	115	0.6
7017 A	**DB**	**DF**	**DT**	91 500	112 000	9 350	11 400	4 300	5 600	84.1	40.1	90	125	0.6
7017 C	**DB**	**DF**	**DT**	98 000	117 000	9 950	12 000	6 000	8 500	50.8	6.8	–	125	0.6
7217 A	**DB**	**DF**	**DT**	167 000	178 000	17 100	18 200	3 800	5 300	95.8	39.8	91	144	1
7217 B	**DB**	**DF**	**DT**	151 000	162 000	15 400	16 500	2 800	3 800	126.6	70.6	91	144	1
7217 C	**DB**	**DF**	**DT**	174 000	181 000	17 800	18 500	5 600	7 500	59.5	3.5	–	144	1
7317 A	**DB**	**DF**	**DT**	258 000	265 000	26 300	27 000	2 600	3 600	117.5	35.5	92	173	1
7317 B	**DB**	**DF**	**DT**	236 000	244 000	24 100	24 800	2 400	3 200	152.2	70.2	92	173	1
7918 A5	**DB**	**DF**	**DT**	64 000	87 000	6 500	8 900	5 000	7 100	68.1	32.1	–	120	0.6
7918 C	**DB**	**DF**	**DT**	67 500	92 000	6 900	9 400	6 000	8 500	46.8	10.8	–	120	0.6
7018 A	**DB**	**DF**	**DT**	109 000	133 000	11 200	13 500	3 800	5 300	90.4	42.4	96	134	1
7018 C	**DB**	**DF**	**DT**	116 000	138 000	11 900	14 100	5 600	8 000	54.8	6.8	–	134	1
7218 A	**DB**	**DF**	**DT**	191 000	206 000	19 500	21 000	3 600	5 000	102.2	42.2	96	154	1
7218 B	**DB**	**DF**	**DT**	173 000	188 000	17 700	19 100	2 600	3 400	134.9	74.9	96	154	1
7218 C	**DB**	**DF**	**DT**	199 000	209 000	20 300	21 400	5 300	7 100	63.5	3.5	–	154	1
7318 A	**DB**	**DF**	**DT**	277 000	294 000	28 300	30 000	2 600	3 400	123.8	37.8	97	183	1
7318 B	**DB**	**DF**	**DT**	254 000	270 000	25 900	27 600	2 200	3 000	160.5	74.5	97	183	1
7919 A5	**DB**	**DF**	**DT**	64 500	91 000	6 600	9 250	4 800	6 700	70.5	34.5	–	125	0.6
7919 C	**DB**	**DF**	**DT**	68 500	96 000	7 000	9 800	5 600	8 000	48.1	12.1	–	125	0.6
7019 A	**DB**	**DF**	**DT**	109 000	134 000	11 100	13 600	3 800	5 000	93.3	45.3	–	139	1
7019 C	**DB**	**DF**	**DT**	119 000	146 000	12 200	14 900	5 300	7 500	56.1	8.1	–	139	1
7219 A	**DB**	**DF**	**DT**	208 000	221 000	21 200	22 600	3 400	4 500	108.5	44.5	102	163	1
7219 B	**DB**	**DF**	**DT**	188 000	202 000	19 200	20 500	2 400	3 200	143.2	79.2	102	163	1
7219 C	**DB**	**DF**	**DT**	216 000	224 000	22 000	22 800	4 800	6 700	67.5	3.5	–	163	1
7319 A	**DB**	**DF**	**DT**	297 000	325 000	30 500	33 000	2 400	3 200	130.2	40.2	102	193	1
7319 B	**DB**	**DF**	**DT**	272 000	298 000	27 700	30 500	2 200	3 000	168.7	78.7	102	193	1
7920 A5	**DB**	**DF**	**DT**	77 000	103 000	7 850	10 500	4 500	6 300	76.0	36.0	–	135	0.6
7920 C	**DB**	**DF**	**DT**	81 500	108 000	8 300	11 100	5 300	7 500	52.2	12.2	–	135	0.6
7020 A	**DB**	**DF**	**DT**	111 000	141 000	11 300	14 400	3 600	5 000	96.2	48.2	–	144	1

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min.) ve r_a (maks.) değerleri – ile işaretlenmiştir.

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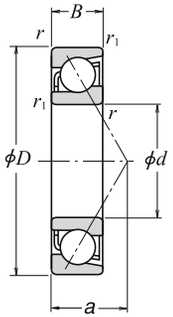
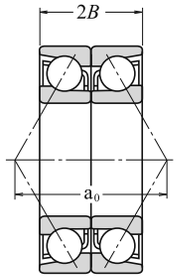
TEKLİ/EŞLEŞTİRİLMİŞ MONTAJLAR

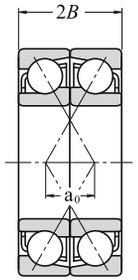
Delik Çapı 100 – 120 mm



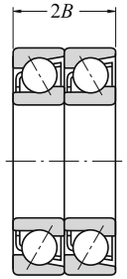
Tekli



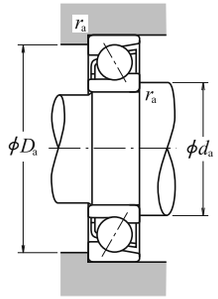
Sırt sırta
DB

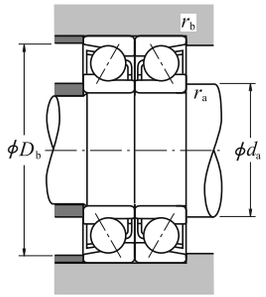


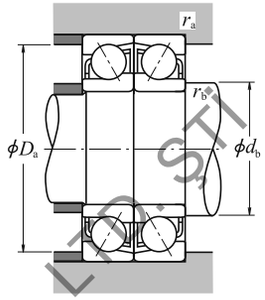
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	$if_0F_a^*/C_{0r}$	e	Tekli, DT $F_a/F_r \le e$ X	Y	Tekli, DT $F_a/F_r > e$ X	Y	DB veya DF $F_a/F_r \le e$ X	Y	DB veya DF $F_a/F_r > e$ X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT X_0	Y_0	DB veya DF X_0	Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme Aşağıdaki durumda: $F_r > 0.5F_r + Y_0F_a$ $P_0 = F_r$'yi kullanın

Temel Ölçüler (mm) d	D	B	r min.	r_1 min.	Temel Yük Değerleri (Tekli) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Faktör f_0	Limit Hızlar (1) (dak⁻¹) Gres	Yağ	Etkili Yük Merkezleri (mm) a	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	D_a maks.	r_a maks.	Kütle (kg) yaklaşık
100	150	24	1.5	1	75 500	77 000	7 700	7 900	16.0	6 300	9 000	28.7	109	141	1.5	1.46
	180	34	2.1	1.1	144 000	126 000	14 700	12 800	–	4 000	5 300	57.4	112	168	2	3.22
	180	34	2.1	1.1	130 000	114 000	13 300	11 700	–	2 800	3 800	75.7	112	168	2	3.28
	180	34	2.1	1.1	149 000	127 000	15 200	12 900	14.5	5 600	8 000	35.7	112	168	2	3.65
	215	47	3	1.1	207 000	193 000	21 100	19 700	–	2 800	3 800	69.0	114	201	2.5	7.29
	215	47	3	1.1	190 000	178 000	19 400	18 100	–	2 400	3 400	89.6	114	201	2.5	7.43
105	145	20	1.1	0.6	48 000	54 000	4 900	5 500	–	5 600	7 500	39.2	112	138	1	0.82
	145	20	1.1	0.6	51 000	57 000	5 200	5 800	16.6	6 300	9 000	26.7	112	138	1	0.826
	160	26	2	1	80 000	81 500	8 150	8 350	–	4 300	5 600	51.2	115	150	2	1.84
	160	26	2	1	88 000	89 500	9 000	9 100	15.9	6 000	8 500	30.7	115	150	2	1.82
	190	36	2.1	1.1	157 000	142 000	16 000	14 400	–	3 800	5 000	60.6	117	178	2	3.84
	190	36	2.1	1.1	142 000	129 000	14 500	13 100	–	2 600	3 600	79.9	117	178	2	3.92
	190	36	2.1	1.1	162 000	143 000	16 600	14 600	14.5	5 300	7 500	37.7	117	178	2	4.33
	225	49	3	1.1	208 000	193 000	21 200	19 700	–	2 600	3 600	72.1	119	211	2.5	9.34
	225	49	3	1.1	191 000	177 000	19 400	18 100	–	2 400	3 200	93.7	119	211	2.5	9.43
110	150	20	1.1	0.6	49 000	56 000	5 000	5 750	–	5 300	7 100	40.3	117	143	1	0.877
	150	20	1.1	0.6	52 000	59 500	5 300	6 050	16.7	6 300	8 500	27.4	117	143	1	0.867
	170	28	2	1	96 500	95 500	9 850	9 700	–	4 000	5 300	54.4	120	160	2	2.28
	170	28	2	1	106 000	104 000	10 800	10 600	15.6	5 600	8 000	32.7	120	160	2	2.26
	200	38	2.1	1.1	170 000	158 000	17 300	16 100	–	3 600	4 800	63.7	122	188	2	4.49
	200	38	2.1	1.1	154 000	144 000	15 700	14 700	–	2 600	3 400	84.0	122	188	2	4.58
	200	38	2.1	1.1	176 000	160 000	17 900	16 300	14.5	5 000	7 100	39.8	122	188	2	5.1
	240	50	3	1.1	220 000	215 000	22 500	21 900	–	2 600	3 400	75.5	124	226	2.5	11.1
	240	50	3	1.1	201 000	197 000	20 500	20 100	–	2 200	3 000	98.4	124	226	2.5	11.2
120	165	22	1.1	0.6	67 500	77 000	6 900	7 850	–	4 800	6 300	44.2	127	158	1	1.15
	165	22	1.1	0.6	72 000	81 000	7 300	8 300	16.5	5 600	7 500	30.1	127	158	1	1.15
	180	28	2	1	102 000	107 000	10 400	10 900	–	3 600	5 000	57.3	130	170	2	2.45
	215	40	2.1	1.1	183 000	177 000	18 600	18 100	–	3 200	4 500	68.3	132	203	2	6.22
	215	40	2.1	1.1	165 000	162 000	16 900	16 500	–	2 400	3 200	90.3	132	203	2	6.26
	260	55	3	1.1	246 000	252 000	25 100	25 700	–	2 200	3 000	82.3	134	246	2.5	14.5
	260	55	3	1.1	225 000	231 000	23 000	23 600	–	2 000	2 800	107.2	134	246	2.5	14.4

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2) Tekli	İkili	Temel Yük Değerleri (Eşleştirilmiş) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹) Gres	Yağ	Yük Merkezi Boşlukları (mm) a_0 DB	DF	Dayanak ve Dolgu Ölçüleri (mm) d_b (3) min.	D_b maks.	r_b (3) maks.
7020 C	DB DF DT	122 000	154 000	12 500	15 800	5 300	7 100	57.5	9.5	–	144	1
7220 A	DB DF DT	233 000	251 000	23 800	25 600	3 200	4 300	114.8	46.8	107	173	1
7220 B	DB DF DT	212 000	229 000	21 600	23 300	2 200	3 000	151.5	83.5	107	173	1
7220 C	DB DF DT	242 000	254 000	24 700	25 900	4 500	6 300	71.5	3.5	–	173	1
7320 A	DB DF DT	335 000	385 000	34 500	39 500	2 200	3 000	137.9	43.9	107	208	1
7320 B	DB DF DT	310 000	355 000	31 500	36 000	2 000	2 800	179.2	85.2	107	208	1
7921 A5	DB DF DT	78 500	108 000	8 000	11 000	4 300	6 000	78.3	38.3	–	140	0.6
7921 C	DB DF DT	83 000	114 000	8 450	11 600	5 300	7 100	53.5	13.5	–	140	0.6
7021 A	DB DF DT	130 000	163 000	13 300	16 700	3 400	4 500	102.5	50.5	–	154	1
7021 C	DB DF DT	143 000	179 000	14 600	18 200	4 800	6 700	61.5	9.5	–	154	1
7221 A	DB DF DT	254 000	283 000	25 900	28 900	3 000	4 000	121.2	49.2	112	183	1
7221 B	DB DF DT	231 000	258 000	23 500	26 300	2 200	3 000	159.8	87.8	112	183	1
7221 C	DB DF DT	264 000	286 000	26 900	29 100	4 300	6 000	75.5	3.5	–	183	1
7321 A	DB DF DT	335 000	385 000	34 500	39 500	2 200	2 800	144.3	46.3	–	218	1
7321 B	DB DF DT	310 000	355 000	31 500	36 000	1 900	2 600	187.4	89.4	–	218	1
7922 A5	DB DF DT	79 500	112 000	8 100	11 500	4 300	5 600	80.6	40.6	–	145	0.6
7922 C	DB DF DT	84 500	119 000	8 600	12 100	5 000	6 700	54.8	14.8	–	145	0.6
7022 A	DB DF DT	157 000	191 000	16 000	19 400	3 200	4 300	108.8	52.8	–	164	1
7022 C	DB DF DT	172 000	208 000	17 600	21 200	4 500	6 300	65.5	9.5	–	164	1
7222 A	DB DF DT	276 000	315 000	28 100	32 500	2 800	4 000	127.5	51.5	117	193	1
7222 B	DB DF DT	250 000	289 000	25 500	29 400	2 000	2 800	168.1	92.1	117	193	1
7222 C	DB DF DT	286 000	320 000	29 200	32 500	4 000	5 600	79.5	3.5	–	193	1
7322 A	DB DF DT	360 000	430 000	36 500	44 000	2 000	2 600	151.0	51.0	–	233	1
7322 B	DB DF DT	325 000	395 000	33 500	40 000	1 800	2 400	196.8	96.8	–	233	1
7924 A5	DB DF DT	110 000	154 000	11 200	15 700	3 800	5 300	88.5	44.5	–	160	0.6
7924 C	DB DF DT	117 000	162 000	11 900	16 600	4 500	6 300	60.2	16.2	–	160	0.6
7024 A	DB DF DT	166 000	213 000	16 900	21 700	3 000	4 000	114.6	58.6	–	174	1
7224 A	DB DF DT	297 000	355 000	30 500	36 000	2 600	3 600	136.7	56.7	–	208	1
7224 B	DB DF DT	269 000	325 000	27 400	33 000	1 900	2 600	180.5	100.5	–	208	1
7324 A	DB DF DT	400 000	505 000	41 000	51 500	1 800	2 400	164.7	54.7	–	253	1
7324 B	DB DF DT	365 000	460 000	37 500	47 000	1 600	2 200	214.4	104.4	–	253	1

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min.) ve r_a (maks.) değerleri – ile işaretlenmiştir.

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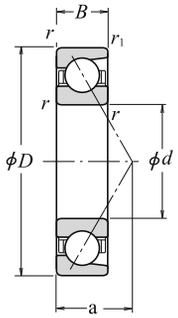
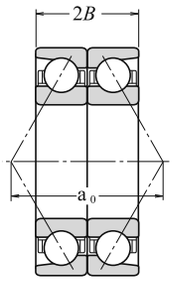
TEKLİ/EŞLEŞTİRİLMİŞ MONTAJLAR

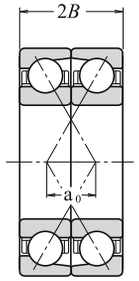
Delik Çapı 130 – 170 mm



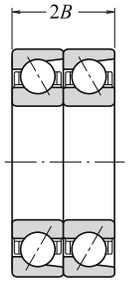
Tekli



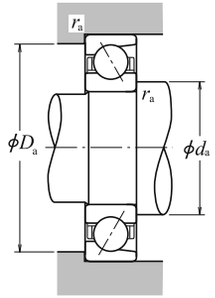
Sırt sırta
DB

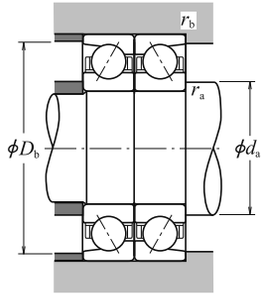


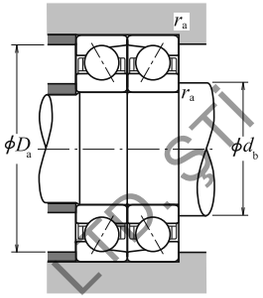
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	$\frac{if_0F_a^*}{C_{0r}}$	e	Tekli, DT $F_a/F_r \leq e$ X	Y	Tekli, DT $F_a/F_r > e$ X	Y	DB veya DF $F_a/F_r \leq e$ X	Y	DB veya DF $F_a/F_r > e$ X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT X_0	Y_0	DB veya DF X_0	Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme Aşağıdaki durumda: $F_r > 0.5F_r + Y_0F_a$ $P_0 = F_r$'yi kullanın

Temel Ölçüler (mm) d	D	B	r min.	r_1 min.	Temel Yük Değerleri (Tekli) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Faktör f_0	Limit Hızlar (1) (dak⁻¹) Gres	Yağ	Etkili Yük Merkezleri (mm) a	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	D_a maks.	r_a maks.	Kütle (kg) yaklaşık
130	180	24	1.5	1	74 000	86 000	7 550	8 750	–	4 300	6 000	48.1	139	171	1.5	1.54
	180	24	1.5	1	78 500	91 000	8 000	9 250	16.5	5 000	7 100	32.8	139	171	1.5	1.5
	200	33	2	1	117 000	125 000	12 000	12 800	–	3 400	4 500	64.1	140	190	2	3.68
	230	40	3	1.1	189 000	193 000	19 300	19 600	–	2 400	3 200	72.0	144	216	2.5	7.06
	230	40	3	1.1	171 000	175 000	17 400	17 800	–	2 200	3 000	95.5	144	216	2.5	7.1
	280	58	4	1.5	273 000	293 000	27 900	29 800	–	2 200	2 800	88.2	148	262	3	17.5
	280	58	4	1.5	250 000	268 000	25 500	27 400	–	1 900	2 600	115.0	148	262	3	17.6
140	190	24	1.5	1	75 000	90 000	7 650	9 200	–	4 000	5 600	50.5	149	181	1.5	1.63
	190	24	1.5	1	79 500	95 500	8 100	9 700	16.7	4 800	6 700	34.1	149	181	1.5	1.63
	210	33	2	1	120 000	133 000	12 200	13 500	–	3 200	4 300	67.0	150	200	2	3.9
	250	42	3	1.1	218 000	234 000	22 300	23 900	–	2 200	3 000	77.3	154	236	2.5	8.92
	250	42	3	1.1	197 000	213 000	20 100	21 700	–	2 000	2 800	102.8	154	236	2.5	8.94
	300	62	4	1.5	300 000	335 000	30 500	34 500	–	2 000	2 600	94.5	158	282	3	21.4
	300	62	4	1.5	275 000	310 000	28 100	31 500	–	1 700	2 400	123.3	158	282	3	21.6
150	210	28	2	1	96 500	115 000	9 850	11 800	–	3 800	5 000	56.0	160	200	2	2.97
	210	28	2	1	102 000	122 000	10 400	12 400	16.6	4 300	6 000	38.1	160	200	2	2.96
	225	35	2.1	1.1	137 000	154 000	14 000	15 700	–	2 400	3 000	71.6	162	213	2	4.75
	270	45	3	1.1	248 000	280 000	25 300	28 500	–	2 000	2 800	83.1	164	256	2.5	11.2
	270	45	3	1.1	225 000	254 000	22 900	25 900	–	1 800	2 600	110.6	164	256	2.5	11.2
	320	65	4	1.5	315 000	370 000	32 500	38 000	–	1 800	2 400	100.3	168	302	3	26
	320	65	4	1.5	289 000	340 000	29 400	34 500	–	1 600	2 200	131.1	168	302	3	25.9
160	220	28	2	1	106 000	133 000	10 800	13 500	16.7	3 800	5 000	39.4	170	210	2	3.1
	240	38	2.1	1.1	155 000	176 000	15 800	18 000	–	2 200	2 800	76.7	172	228	2	5.77
	290	48	3	1.1	263 000	305 000	26 800	31 500	–	1 900	2 600	89.0	174	276	2.5	14.1
	290	48	3	1.1	238 000	279 000	24 200	28 400	–	1 700	2 400	118.4	174	276	2.5	14.2
	340	68	4	1.5	345 000	420 000	35 500	43 000	–	1 700	2 200	106.2	178	322	3	30.7
	340	68	4	1.5	315 000	385 000	32 000	39 500	–	1 500	2 000	138.9	178	322	3	30.8
170	230	28	2	1	113 000	148 000	11 500	15 100	16.8	3 600	4 800	40.8	180	220	2	3.36
	260	42	2.1	1.1	186 000	214 000	19 000	21 900		2 000	2 600	83.1	182	248	2	7.9
	310	52	4	1.5	295 000	360 000	30 000	36 500	–	1 800	2 400	95.3	188	292	3	17.3
	310	52	4	1.5	266 000	325 000	27 200	33 000	–	1 600	2 200	126.7	188	292	3	17.6
	360	72	4	1.5	390 000	485 000	39 500	49 500	–	1 600	2 200	112.5	188	342	3	35.8
	360	72	4	1.5	355 000	445 000	36 000	45 500	–	1 400	2 000	147.2	188	342	3	35.6

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2) Tekli	İkili	Temel Yük Değerleri (Eşleştirilmiş) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹) Gres	Yağ	Yük Merkezi Boşlukları (mm) a_0 DB	DF	Dayanak ve Dolgu Ebatları (mm) d_b (3) min.	D_b maks.	r_b (3) maks.
7926 A5	DB DF DT	120 000	172 000	12 300	17 500	3 400	4 800	96.3	48.3	–	174	1
7926 C	DB DF DT	128 000	182 000	13 000	18 500	4 000	5 600	65.5	17.5	–	174	1
7026 A	DB DF DT	191 000	251 000	19 400	25 600	2 600	3 600	128.3	62.3	–	194	1
7226 A	DB DF DT	310 000	385 000	31 500	39 500	1 900	2 600	143.9	63.9	–	223	1
7226 B	DB DF DT	278 000	350 000	28 300	35 500	1 700	2 400	191.0	111.0	–	223	1
7326 A	DB DF DT	445 000	585 000	45 500	59 500	1 700	2 200	176.3	60.3	–	271	1.5
7326 B	DB DF DT	405 000	535 000	41 500	54 500	1 500	2 000	230.0	114.0	–	271	1.5
7928 A5	DB DF DT	122 000	180 000	12 400	18 400	3 200	4 500	100.9	52.9	–	184	1
7928 C	DB DF DT	129 000	191 000	13 200	19 400	3 800	5 300	68.2	20.2	–	184	1
7028 A	DB DF DT	194 000	265 000	19 800	27 000	2 600	3 400	134.0	68.0	–	204	1
7228 A	DB DF DT	355 000	470 000	36 000	48 000	1 800	2 400	154.6	70.6	–	243	1
7228 B	DB DF DT	320 000	425 000	32 500	43 500	1 600	2 200	205.6	121.6	–	243	1
7328 A	DB DF DT	490 000	670 000	50 000	68 500	1 600	2 000	189.0	65.0	–	291	1.5
7328 B	DB DF DT	445 000	615 000	45 500	63 000	1 400	1 900	246.6	122.6	–	291	1.5
7930 A5	DB DF DT	157 000	231 000	16 000	23 500	3 000	4 000	112.0	56.0	–	204	1
7930 C	DB DF DT	166 000	244 000	16 900	24 900	3 600	4 800	76.2	20.2	–	204	1
7030 A	DB DF DT	222 000	305 000	22 700	31 500	1 900	2 400	143.3	73.3	–	218	1
7230 A	DB DF DT	405 000	560 000	41 000	57 000	1 600	2 200	166.3	76.3	–	263	1
7230 B	DB DF DT	365 000	510 000	37 000	52 000	1 500	2 000	221.2	131.2	–	263	1
7330 A	DB DF DT	515 000	745 000	52 500	75 500	1 500	1 900	200.7	70.7	–	311	1.5
7330 B	DB DF DT	470 000	680 000	48 000	69 500	1 300	1 800	262.2	132.2	–	311	1.5
7932 C	DB DF DT	173 000	265 000	17 600	27 000	3 000	4 000	78.9	22.9	–	214	1
7032 A	DB DF DT	252 000	355 000	25 700	36 000	1 700	2 400	153.5	77.5	–	233	1
7232 A	DB DF DT	425 000	615 000	43 500	62 500	1 500	2 000	177.9	81.9	–	283	1
7232 B	DB DF DT	385 000	555 000	39 500	57 000	1 400	1 900	236.8	140.8	–	283	1
7332 A	DB DF DT	565 000	845 000	57 500	86 000	1 400	1 800	212.3	76.3	–	331	1.5
7332 B	DB DF DT	515 000	770 000	52 500	78 500	1 200	1 700	277.8	141.8	–	331	1.5
7934 C	DB DF DT	183 000	297 000	18 700	30 000	2 800	3 800	81.6	25.6	–	224	1
7034 A	DB DF DT	300 000	430 000	31 000	43 500	1 600	2 200	166.1	82.1	–	253	1
7234 A	DB DF DT	480 000	715 000	49 000	73 000	1 400	1 900	190.6	86.6	–	301	1.5
7234 B	DB DF DT	435 000	650 000	44 000	66 500	1 300	1 700	253.4	149.4	–	301	1.5
7334 A	DB DF DT	630 000	970 000	64 500	99 000	1 300	1 700	225.0	81.0	–	351	1.5
7334 B	DB DF DT	575 000	890 000	59 000	90 500	1 100	1 600	294.3	150.3	–	351	1.5

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min.) ve r_a (maks.) değerleri – ile işaretlenmiştir.

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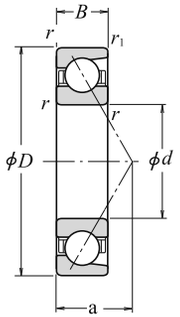
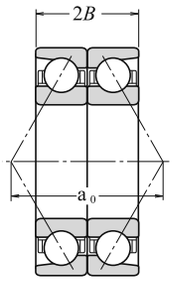
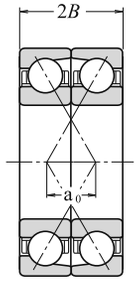
Delik Çapı 180 – 200 mm



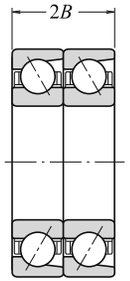
Tekli



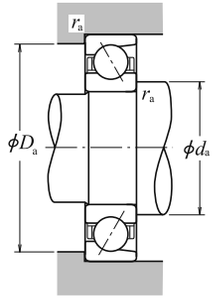
Sırt sırta
DB

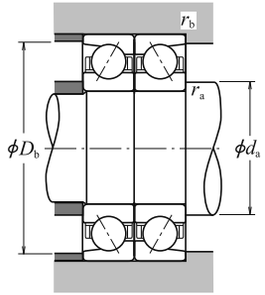


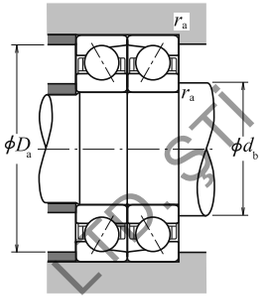
Yüz yüze
DF



Tandem
DT







Dinamik Eşdeğer Yük $P = XF_r + YF_a$

Temas Açısı	$if_0F_a^*/C_{0r}$	e	Tekli, DT $F_a/F_r \leq e$ X	Y	Tekli, DT $F_a/F_r > e$ X	Y	DB veya DF $F_a/F_r \leq e$ X	Y	DB veya DF $F_a/F_r > e$ X	Y
15°	0.178	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
	2.14	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	3.57	0.55	1	0	0.44	1.02	1	1.14	0.72	1.66
	5.35	0.56	1	0	0.44	1.00	1	1.12	0.72	1.63
25°	—	0.68	1	0	0.41	0.87	1	0.92	0.67	1.41
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93

* i için, DB, DF için 2'yi ve DT için 1'i kullanın.

Statik Eşdeğer Yük $P_0 = X_0F_r + Y_0F_a$

Temas Açısı	Tekli, DT X_0	Y_0	DB veya DF X_0	Y_0
15°	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Tekli ya da DT yerleştirme Aşağıdaki durumda: $F_r > 0.5F_r + Y_0F_a$ $P_0 = F_r$'yi kullanın

Temel Ölçüler (mm) d	D	B	r min.	r_1 min.	Temel Yük Değerleri (Tekli) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Faktör f_0	Limit Hızlar (1) (dak⁻¹) Gres	Yağ	Etkili Yük Merkezleri (mm) a	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	D_a maks.	r_a maks.	Kütle (kg) yaklaşık
180	250	33	2	1	145 000	184 000	14 800	18 800	16.6	3 200	4 500	45.3	190	240	2	4.9
	280	46	2.1	1.1	207 000	252 000	21 100	25 700	–	1 900	2 400	89.4	192	268	2	10.5
	320	52	4	1.5	305 000	385 000	31 000	39 000	–	1 700	2 200	98.2	198	302	3	18.1
	320	52	4	1.5	276 000	350 000	28 100	35 500	–	1 500	2 000	130.9	198	302	3	18.4
	380	75	4	1.5	410 000	535 000	41 500	54 500	–	1 500	2 000	118.3	198	362	3	42.1
	380	75	4	1.5	375 000	490 000	38 000	50 000	–	1 300	1 800	155.0	198	362	3	42.6
190	260	33	2	1	147 000	192 000	15 000	19 600	16.7	3 000	4 300	46.6	200	250	2	4.98
	290	46	2.1	1.1	224 000	280 000	22 800	28 600	–	1 800	2 400	92.3	202	278	2	11.3
	340	55	4	1.5	315 000	410 000	32 000	42 000	–	1 600	2 200	104.0	208	322	3	22.4
	340	55	4	1.5	284 000	375 000	28 900	38 000	–	1 400	2 000	138.7	208	322	3	22.5
	400	78	5	2	450 000	600 000	46 000	61 000	–	1 400	1 900	124.2	212	378	4	47.5
	400	78	5	2	410 000	550 000	42 000	56 000	–	1 300	1 700	162.8	212	378	4	47.2
200	280	38	2.1	1.1	189 000	244 000	19 300	24 900	16.5	2 800	4 000	51.2	212	268	2	6.85
	310	51	2.1	1.1	240 000	310 000	24 500	31 500	–	1 700	2 200	99.1	212	298	2	13.7
	360	58	4	1.5	335 000	450 000	34 500	46 000	–	1 500	2 000	109.8	218	342	3	26.5
	360	58	4	1.5	305 000	410 000	31 000	41 500	–	1 300	1 800	146.5	218	342	3	26.6
	420	80	5	2	475 000	660 000	48 500	67 000	–	1 300	1 800	129.5	222	398	4	54.4
	420	80	5	2	430 000	600 000	44 000	61 500	–	1 200	1 600	170.1	222	398	4	55.3

Notlar (1) Sınırlama hızına yakın çalışan uygulamalar için, Sayfa **B49**'a bakınız.
(2) A, A5, B ve C sonekleri, sırasıyla 30°, 25°, 40°, ve 15° temas açılarını temsil eder.

Rulman Numaraları (2) Tekli	İkili	Temel Yük Değerleri (Eşleştirilmiş) (N) C_r	C_{0r}	{kgf} C_r	C_{0r}	Limit Hızlar (1) (Eşleştirilmiş) (dak⁻¹) Gres	Yağ	Yük Merkezi Boşlukları (mm) a_0 DB	DF	Dayanak ve Dolgu Ebatları (mm) d_b (3) min.	D_b maks.	r_b (3) maks.
7936 C	**DB DF DT**	236 000	370 000	24 000	37 500	2 600	3 600	90.6	24.6	–	244	1
7036 A	**DB DF DT**	335 000	505 000	34 500	51 500	1 500	2 000	178.8	86.8	–	273	1
7236 A	**DB DF DT**	495 000	770 000	50 500	78 500	1 400	1 800	196.3	92.3	–	311	1.5
7236 B	**DB DF DT**	450 000	700 000	45 500	71 000	1 200	1 700	261.8	157.8	–	311	1.5
7336 A	**DB DF DT**	665 000	1 070 000	68 000	109 000	1 200	1 600	236.6	86.6	–	371	1.5
7336 B	**DB DF DT**	605 000	975 000	62 000	99 500	1 100	1 500	309.9	159.9	–	371	1.5
7938 C	**DB DF DT**	239 000	385 000	24 400	39 000	2 400	3 400	93.3	27.3	–	254	1
7038 A	**DB DF DT**	365 000	560 000	37 000	57 000	1 400	1 900	184.6	92.6	–	283	1
7238 A	**DB DF DT**	510 000	825 000	52 000	84 000	1 300	1 700	208.0	98.0	–	331	1.5
7238 B	**DB DF DT**	460 000	750 000	47 000	76 000	1 100	1 600	277.3	167.3	–	331	1.5
7338 A	**DB DF DT**	730 000	1 200 000	74 500	122 000	1 100	1 500	248.3	92.3	–	390	2
7338 B	**DB DF DT**	670 000	1 100 000	68 000	112 000	1 000	1 400	325.5	169.5	–	390	2
7940 C	**DB DF DT**	305 000	490 000	31 500	50 000	2 200	3 200	102.3	26.3	–	273	1
7040 A	**DB DF DT**	390 000	620 000	40 000	63 500	1 300	1 800	198.2	96.2	–	303	1
7240 A	**DB DF DT**	550 000	900 000	56 000	92 000	1 200	1 600	219.6	103.6	–	351	1.5
7.240 B	**DB DF DT**	495 000	815 000	50 500	83 000	1 100	1 500	292.9	176.9	–	351	1.5
7340 A	**DB DF DT**	770 000	1 320 000	78 500	134 000	1 100	1 400	259.0	99.0	–	410	2
7340 B	**DB DF DT**	700 000	1 200 000	71 500	123 000	950	1 300	340.1	180.1	–	410	2

Not (3) Miller için d_b ve r_b sütununda rulmanlar için sırasıyla d_a (min.) ve r_a (maks.) değerleri – ile işaretlenmiştir.

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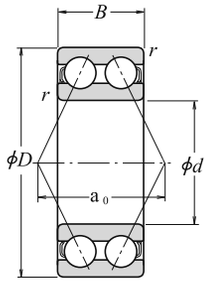
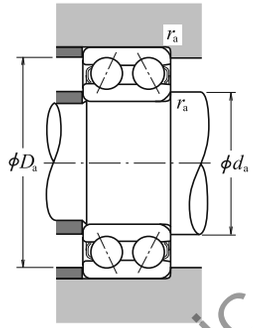
Delik Çapı 10 – 85 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$		e
X	Y	X	Y	
1	0.92	0.67	1.41	0.68

Statik Eşdeğer Yük

$P_0 = F_r + 0.76\,F_a$

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızlar (dak⁻¹)		Rulman Numaraları	Yük Merkezi Boşlukları (mm)	Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ		a_0	d_a min.	D_a maks.	r_a maks.	yaklaşık
10	30	14.3	0.6	7 150	3 900	730	400	17 000	22 000	**5200**	14.5	15	25	0.6	0.050
12	32	15.9	0.6	10 500	5 800	1 070	590	15 000	20 000	**5201**	16.7	17	27	0.6	0.060
15	35	15.9	0.6	11 700	7 050	1 190	715	13 000	17 000	**5202**	18.3	20	30	0.6	0.070
	42	19	1	17 600	10 200	1 800	1 040	11 000	15 000	**5302**	22.0	21	36	1	0.11
17	40	17.5	0.6	14 600	9 050	1 490	920	11 000	15 000	**5203**	20.8	22	35	0.6	0.090
	47	22.2	1	21 000	12 600	2 140	1 280	10 000	13 000	**5303**	25.0	23	41	1	0.14
20	47	20.6	1	19 600	12 400	2 000	1 270	10 000	13 000	**5204**	24.3	26	41	1	0.12
	52	22.2	1.1	24 600	15 000	2 510	1 530	9 000	12 000	**5304**	26.7	27	45	1	0.23
25	52	20.6	1	21 300	14 700	2 170	1 500	8 500	11 000	**5205**	26.8	31	46	1	0.19
	62	25.4	1.1	32 500	20 700	3 350	2 110	7 500	10 000	**5305**	31.8	32	55	1	0.34
30	62	23.8	1	29 600	21 100	3 000	2 150	7 100	9 500	**5206**	31.6	36	56	1	0.29
	72	30.2	1.1	40 500	28 100	4 150	2 870	6 300	8 500	**5306**	36.5	37	65	1	0.51
35	72	27	1.1	39 000	28 700	4 000	2 920	6 300	8 000	**5207**	36.6	42	65	1	0.43
	80	34.9	1.5	51 000	36 000	5 200	3 700	5 600	7 500	**5307**	41.6	44	71	1.5	0.79
40	80	30.2	1.1	44 000	33 500	4 500	3 400	5 600	7 100	**5208**	41.5	47	73	1	0.57
	90	36.5	1.5	56 500	41 000	5 800	4 200	5 300	6 700	**5308**	45.5	49	81	1.5	1.05
45	85	30.2	1.1	49 500	38 000	5 050	3 900	5 000	6 700	**5209**	43.4	52	78	1	0.62
	100	39.7	1.5	68 500	51 000	7 000	5 200	4 500	6 000	**5309**	50.6	54	91	1.5	1.4
50	90	30.2	1.1	53 000	43 500	5 400	4 400	4 800	6 000	**5210**	45.9	57	83	1	0.67
	110	44.4	2	81 500	61 500	8 300	6 250	4 300	5 600	**5310**	55.6	60	100	2	1.95
55	100	33.3	1.5	56 000	49 000	5 700	5 000	4 300	5 600	**5211**	50.1	64	91	1.5	0.96
	120	49.2	2	95 000	73 000	9 700	7 450	3 800	5 000	**5311**	60.6	65	110	2	2.3
60	110	36.5	1.5	69 000	62 000	7 050	6 300	3 800	5 000	**5212**	56.5	69	101	1.5	1.35
	130	54	2.1	125 000	98 500	12 800	10 000	3 400	4 500	**5312**	69.2	72	118	2	3.15
65	120	38.1	1.5	76 500	69 000	7 800	7 050	3 600	4 500	**5213**	59.7	74	111	1.5	1.65
	140	58.7	2.1	142 000	113 000	14 500	11 500	3 200	4 300	**5313**	72.8	77	128	2	3.85
70	125	39.7	1.5	94 000	82 000	9 600	8 400	3 400	4 500	**5214**	63.8	79	116	1.5	1.8
	150	63.5	2.1	159 000	128 000	16 200	13 100	3 000	3 800	**5314**	78.3	82	138	2	4.9
75	130	41.3	1.5	93 500	83 000	9 550	8 500	3 200	4 300	**5215**	66.1	84	121	1.5	1.9
80	140	44.4	2	99 000	93 000	10 100	9 500	3 000	3 800	**5216**	69.6	90	130	2	2.5
85	150	49.2	2	116 000	110 000	11 800	11 200	2 800	3 600	**5217**	75.3	95	140	2	3.4

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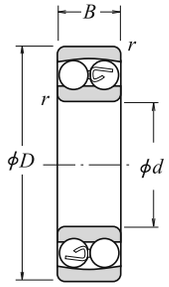
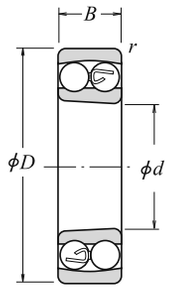
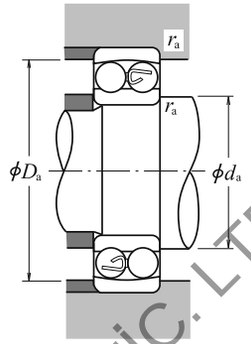
Delik Çapı 5 – 30 mm



Silindirik Delik



Konik Delik



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.65	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3 ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızlar (dak–1)		Rulman	Numaralar	Dayanak ve Dolgu Ebatları (mm)			Sabit	Eksenel Yük Faktörleri			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik Çapı	Konik Çap(1)	d_a min.	D_a maks.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
5	19	6	0.3	2 530	475	258	49	30 000	36 000	**135**	—	7	17	0.3	0.34	2.9	1.9	1.9	0.009
6	19	6	0.3	2 530	475	258	49	30 000	36 000	**126**	—	8	17	0.3	0.34	2.9	1.9	1.9	0.008
7	22	7	0.3	2 750	600	280	61	26 000	32 000	**127**	—	9	20	0.3	0.31	3.1	2.0	2.1	0.013
8	22	7	0.3	2 750	600	280	61	26 000	32 000	**108**	—	10	20	0.3	0.31	3.1	2.0	2.1	0.016
9	26	8	0.6	4 150	895	425	91	26 000	30 000	**129**	—	13	22	0.6	0.32	3.1	2.0	2.1	0.021
10	30	9	0.6	5 550	1 190	570	121	22 000	28 000	**1200**	—	14	26	0.6	0.32	3.1	2.0	2.1	0.033
	30	14	0.6	7 450	1 590	760	162	24 000	28 000	**2200**	—	14	26	0.6	0.64	1.5	0.98	1.0	0.042
	35	11	0.6	7 350	1 620	750	165	20 000	24 000	**1300**	—	14	31	0.6	0.35	2.8	1.8	1.9	0.057
	35	17	0.6	9 200	2 010	935	205	18 000	22 000	**2300**	—	14	31	0.6	0.71	1.4	0.89	0.93	0.077
12	32	10	0.6	5 700	1 270	580	130	22 000	26 000	**1201**	—	16	28	0.6	0.36	2.7	1.8	1.8	0.039
	32	14	0.6	7 750	1 730	790	177	22 000	26 000	**2201**	—	16	28	0.6	0.58	1.7	1.1	1.1	0.048
	37	12	1	9 650	2 160	985	221	18 000	22 000	**1301**	—	17	32	1	0.33	2.9	1.9	2.0	0.066
	37	17	1	12 100	2 730	1 240	278	17 000	22 000	**2301**	—	17	32	1	0.60	1.6	1.1	1.1	0.082
15	35	11	0.6	7 600	1 750	775	179	18 000	22 000	**1202**	—	19	31	0.6	0.32	3.1	2.0	2.1	0.051
	35	14	0.6	7 800	1 850	795	188	18 000	22 000	**2202**	—	19	31	0.6	0.50	1.9	1.3	1.3	0.055
	42	13	1	9 700	2 290	990	234	16 000	20 000	**1302**	—	20	37	1	0.33	2.9	1.9	2.0	0.093
	42	17	1	12 300	2 910	1 250	296	14 000	18 000	**2302**	—	20	37	1	0.51	1.9	1.2	1.3	0.108
17	40	12	0.6	8 000	2 010	815	205	16 000	20 000	**1203**	—	21	36	0.6	0.31	3.1	2.0	2.1	0.072
	40	16	0.6	9 950	2 420	1 010	247	16 000	20 000	**2203**	—	21	36	0.6	0.50	1.9	1.3	1.3	0.085
	47	14	1	12 700	3 200	1 300	325	14 000	17 000	**1303**	—	22	42	1	0.32	3.1	2.0	2.1	0.13
	47	19	1	14 700	3 550	1 500	365	13 000	16 000	**2303**	—	22	42	1	0.51	1.9	1.2	1.3	0.15
20	47	14	1	10 000	2 610	1 020	266	14 000	17 000	**1204**	**1204 K**	25	42	1	0.29	3.4	2.2	2.3	0.12
	47	18	1	12 800	3 300	1 310	340	14 000	17 000	**2204**	**2204 K**	25	42	1	0.47	2.1	1.3	1.4	0.133
	52	15	1.1	12 600	3 350	1 280	340	12 000	15 000	**1304**	**1304 K**	26.5	45.5	1	0.29	3.4	2.2	2.3	0.165
	52	21	1.1	18 500	4 700	1 880	480	11 000	14 000	**2304**	**2304 K**	26.5	45.5	1	0.50	1.9	1.2	1.3	0.193
25	52	15	1	12 200	3 300	1 250	335	12 000	14 000	**1205**	**1205 K**	30	47	1	0.28	3.5	2.3	2.4	0.14
	52	18	1	12 400	3 450	1 270	350	12 000	14 000	**2205**	**2205 K**	30	47	1	0.41	2.4	1.5	1.6	0.15
	62	17	1.1	18 200	5 000	1 850	510	10 000	13 000	**1305**	**1305 K**	31.5	55.5	1	0.28	3.5	2.3	2.4	0.255
	62	24	1.1	24 900	6 600	2 530	675	9 500	12 000	**2305**	**2305 K**	31.5	55.5	1	0.47	2.1	1.4	1.4	0.319
30	62	16	1	15 800	4 650	1 610	475	10 000	12 000	**1206**	**1206 K**	35	57	1	0.25	3.9	2.5	2.6	0.22
	62	20	1	15 300	4 550	1 560	460	10 000	12 000	**2206**	**2206 K**	35	57	1	0.38	2.5	1.6	1.7	0.249
	72	19	1.1	21 400	6 300	2 190	645	8 500	11 000	**1306**	**1306 K**	36.5	65.5	1	0.26	3.7	2.4	2.5	0.385
	72	27	1.1	32 000	8 750	3 250	895	8 000	10 000	**2306**	**2306 K**	36.5	65.5	1	0.44	2.2	1.4	1.5	0.48

Not (1) K soneki, konik delikli (1 : 12) rulmanları temsil eder

Notlar Adaptörler ile ilgili ebatlar için, Sayfa **B358**'e bakınız.

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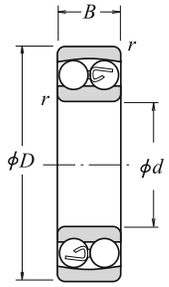
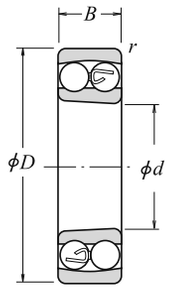
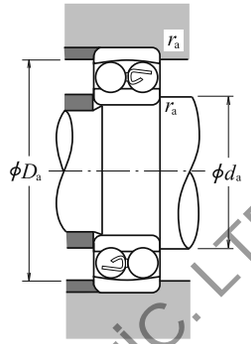
Delik Çapı 35 – 70 mm



Silindirik Delik



Konik Delik



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.65	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3 ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızlar (dak–1)		Rulman	Numaralar	Dayanak ve Dolgu Ebatları (mm)			Sabit	Eksenel Yük Faktörleri			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik Çapı	Konik Çap(1)	d_a min.	D_a maks.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
35	72	17	1.1	15 900	5 100	1 620	520	8 500	10 000	**1207**	**1207 K**	41.5	65.5	1	0.23	4.2	2.7	2.8	0.32
	72	23	1.1	21 700	6 600	2 210	675	8 500	10 000	**2207**	**2207 K**	41.5	65.5	1	0.37	2.6	1.7	1.8	0.378
	80	21	1.5	25 300	7 850	2 580	800	7 500	9 500	**1307**	**1307 K**	43	72	1.5	0.26	3.8	2.5	2.6	0.51
	80	31	1.5	40 000	11 300	4 100	1 150	7 100	9 000	**2307**	**2307 K**	43	72	1.5	0.46	2.1	1.4	1.4	0.642
40	80	18	1.1	19 300	6 500	1 970	665	7 500	9 000	**1208**	**1208 K**	46.5	73.5	1	0.22	4.3	2.8	2.9	0.415
	80	23	1.1	22 400	7 350	2 290	750	7 500	9 000	**2208**	**2208 K**	46.5	73.5	1	0.33	3.0	1.9	2.0	0.477
	90	23	1.5	29 800	9 700	3 050	990	6 700	8 500	**1308**	**1308 K**	48	82	1.5	0.24	4.0	2.6	2.7	0.715
	90	33	1.5	45 500	13 500	4 650	1 380	6 300	8 000	**2308**	**2308 K**	48	82	1.5	0.43	2.3	1.5	1.5	0.889
45	85	19	1.1	22 000	7 350	2 240	750	7 100	8 500	**1209**	**1209 K**	51.5	78.5	1	0.21	4.7	3.0	3.1	0.465
	85	23	1.1	23 300	8 150	2 380	830	7 100	8 500	**2209**	**2209 K**	51.5	78.5	1	0.30	3.2	2.1	2.2	0.522
	100	25	1.5	38 500	12 700	3 900	1 300	6 000	7 500	**1309**	**1309 K**	53	92	1.5	0.25	4.0	2.6	2.7	0.955
	100	36	1.5	55 000	16 700	5 600	1 700	5 600	7 100	**2309**	**2309 K**	53	92	1.5	0.41	2.4	1.5	1.6	1.2
50	90	20	1.1	22 800	8 100	2 330	830	6 300	8 000	**1210**	**1210 K**	56.5	83.5	1	0.21	4.7	3.1	3.2	0.525
	90	23	1.1	23 300	8 450	2 380	865	6 300	8 000	**2210**	**2210 K**	56.5	83.5	1	0.28	3.4	2.2	2.3	0.564
	110	27	2	43 500	14 100	4 450	1 440	5 600	6 700	**1310**	**1310 K**	59	101	2	0.23	4.2	2.7	2.8	1.25
	110	40	2	65 000	20 200	6 650	2 060	5 000	6 300	**2310**	**2310 K**	59	101	2	0.42	2.3	1.5	1.6	1.58
55	100	21	1.5	26 900	10 000	2 750	1 020	6 000	7 100	**1211**	**1211 K**	63	92	1.5	0.20	4.9	3.2	3.3	0.705
	100	25	1.5	26 700	9 900	2 720	1 010	6 000	7 100	**2211**	**2211 K**	63	92	1.5	0.28	3.5	2.3	2.4	0.746
	120	29	2	51 500	17 900	5 250	1 820	5 000	6 300	**1311**	**1311 K**	64	111	2	0.23	4.2	2.7	2.8	1.6
	120	43	2	76 500	24 000	7 800	2 450	4 800	6 000	**2311**	**2311 K**	64	111	2	0.41	2.4	1.5	1.6	2.03
60	110	22	1.5	30 500	11 500	3 100	1 180	5 300	6 300	**1212**	**1212 K**	68	102	1.5	0.18	5.3	3.4	3.6	0.90
	110	28	1.5	34 000	12 600	3 500	1 290	5 300	6 300	**2212**	**2212 K**	68	102	1.5	0.28	3.5	2.3	2.4	1.03
	130	31	2.1	57 500	20 800	5 900	2 130	4 500	5 600	**1312**	**1312 K**	71	119	2	0.23	4.3	2.8	2.9	2.03
	130	46	2.1	88 500	28 300	9 000	2 880	4 300	5 300	**2312**	**2312 K**	71	119	2	0.40	2.4	1.6	1.6	2.57
65	120	23	1.5	31 000	12 500	3 150	1 280	4 800	6 000	**1213**	**1213 K**	73	112	1.5	0.17	5.7	3.7	3.8	1.15
	120	31	1.5	43 500	16 400	4 450	1 670	4 800	6 000	**2213**	**2213 K**	73	112	1.5	0.28	3.5	2.3	2.4	1.4
	140	33	2.1	62 500	22 900	6 350	2 330	4 300	5 300	**1313**	**1313 K**	76	129	2	0.23	4.2	2.7	2.9	2.54
	140	48	2.1	97 000	32 500	9 900	3 300	3 800	4 800	**2313**	**2313 K**	76	129	2	0.39	2.5	1.6	1.7	3.2
70	125	24	1.5	35 000	13 800	3 550	1 410	4 800	5 600	**1214**	—	78	117	1.5	0.18	5.3	3.4	3.6	1.3
	125	31	1.5	44 000	17 100	4 500	1 740	4 500	5 600	**2214**	—	78	117	1.5	0.26	3.7	2.4	2.5	1.52
	150	35	2.1	75 000	27 700	7 650	2 830	4 000	5 000	**1314**	—	81	139	2	0.22	4.4	2.8	3.0	3.19
	150	51	2.1	111 000	37 500	11 300	3 850	3 600	4 500	**2314**	—	81	139	2	0.38	2.6	1.7	1.8	3.9

Not (1) K soneki, konik delikli (1 : 12) rulmanları temsil eder

Notlar Adaptörler ile ilgili ebatlar için, Sayfa **B358** ve **B359**'a bakınız.

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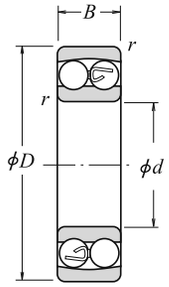
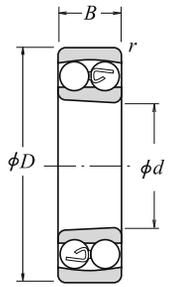
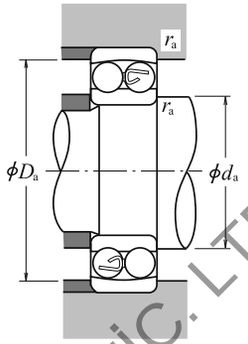
Delik Çapı 75 – 110 mm



Silindirik Delik



Konik Delik



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.65	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3 ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızlar (dak–1)		Rulman	Numaralar	Dayanak ve Dolgu Ebatları (mm)			Sabit	Eksenel Yük Faktörleri			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik Çapı	Konik Çap(1)	d_a min.	D_a maks.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
75	130	25	1.5	39 000	15 700	4 000	1 600	4 300	5 300	**1215**	**1215 K**	83	122	1.5	0.17	5.6	3.6	3.8	1.41
	130	31	1.5	44 500	17 800	4 550	1 820	4 300	5 300	**2215**	**2215 K**	83	122	1.5	0.25	3.9	2.5	2.6	1.6
	160	37	2.1	80 000	30 000	8 150	3 050	3 800	4 500	**1315**	**1315 K**	86	149	2	0.22	4.4	2.8	2.9	3.65
	160	55	2.1	125 000	43 000	12 700	4 400	3 400	4 300	**2315**	**2315 K**	86	149	2	0.38	2.5	1.6	1.7	4.77
80	140	26	2	40 000	17 000	4 100	1 730	4 000	5 000	**1216**	**1216 K**	89	131	2	0.16	6.0	3.9	4.1	1.73
	140	33	2	49 000	19 900	5 000	2 030	4 000	5 000	**2216**	**2216 K**	89	131	2	0.25	3.9	2.5	2.7	1.97
	170	39	2.1	89 000	33 000	9 100	3 400	3 600	4 300	**1316**	**1316 K**	91	159	2	0.22	4.5	2.9	3.1	4.31
	170	58	2.1	130 000	45 000	13 200	4 600	3 200	4 000	*** 2316**	*** 2316 K**	91	159	2	0.39	2.5	1.6	1.7	5.54
85	150	28	2	49 500	20 800	5 050	2 120	3 800	4 500	**1217**	**1217 K**	94	141	2	0.17	5.7	3.7	3.8	2.09
	150	36	2	58 500	23 600	5 950	2 400	3 800	4 800	**2217**	**2217 K**	94	141	2	0.25	3.9	2.5	2.6	2.48
	180	41	3	98 500	38 000	10 000	3 850	3 400	4 000	**1317**	**1317 K**	98	167	2.5	0.21	4.6	2.9	3.1	5.13
	180	60	3	142 000	51 500	14 500	5 250	3 000	3 800	**2317**	**2317 K**	98	167	2.5	0.37	2.6	1.7	1.8	6.56
90	160	30	2	57 500	23 500	5 850	2 400	3 600	4 300	**1218**	**1218 K**	99	151	2	0.17	5.8	3.8	3.9	2.55
	160	40	2	70 500	28 700	7 200	2 930	3 600	4 300	**2218**	**2218 K**	99	151	2	0.27	3.7	2.4	2.5	3.13
	190	43	3	117 000	44 500	12 000	4 550	3 200	3 800	*** 1318**	*** 1318 K**	103	177	2.5	0.22	4.3	2.8	2.9	5.94
	190	64	3	154 000	57 500	15 700	5 850	2 800	3 600	**2318**	**2318 K**	103	177	2.5	0.38	2.6	1.7	1.7	7.76
95	170	32	2.1	64 000	27 100	6 550	2 770	3 400	4 000	**1219**	**1219 K**	106	159	2	0.17	5.8	3.7	3.9	3.21
	170	43	2.1	84 000	34 500	8 550	3 500	3 400	4 000	**2219**	**2219 K**	106	159	2	0.27	3.7	2.4	2.5	3.87
	200	45	3	129 000	51 000	13 200	5 200	3 000	3 600	*** 1319**	*** 1319 K**	108	187	2.5	0.23	4.3	2.8	2.9	6.84
	200	67	3	161 000	64 500	16 400	6 550	2 800	3 400	*** 2319**	*** 2319 K**	108	187	2.5	0.38	2.6	1.7	1.8	9.01
100	180	34	2.1	69 500	29 700	7 100	3 050	3 200	3 800	**1220**	**1220 K**	111	169	2	0.17	5.6	3.6	3.8	3.82
	180	46	2.1	94 500	38 500	9 650	3 900	3 200	3 800	**2220**	**2220 K**	111	169	2	0.27	3.7	2.4	2.5	4.53
	215	47	3	140 000	57 500	14 300	5 850	2 800	3 400	*** 1320**	*** 1320 K**	113	202	2.5	0.24	4.1	2.7	2.8	8.46
	215	73	3	187 000	79 000	19 100	8 050	2 400	3 200	*** 2320**	*** 2320 K**	113	202	2.5	0.38	2.6	1.7	1.8	11.6
105	190	36	2.1	75 000	32 500	7 650	3 300	3 000	3 600	**1221**	—	116	179	2	0.18	5.5	3.6	3.7	4.52
	190	50	2.1	109 000	45 000	11 100	4 550	3 000	3 600	**2221**	—	116	179	2	0.28	3.5	2.3	2.4	5.64
	225	49	3	154 000	64 500	15 700	6 600	2 600	3 200	*** 1321**	—	118	212	2.5	0.23	4.2	2.7	2.9	10
	225	77	3	200 000	87 000	20 400	8 850	2 400	3 000	*** 2321**	—	118	212	2.5	0.38	2.6	1.7	1.7	14.4
110	200	38	2.1	87 000	38 500	8 900	3 950	2 800	3 400	**1222**	**1222 K**	121	189	2	0.17	5.7	3.7	3.9	5.33
	200	53	2.1	122 000	51 500	12 500	5 250	2 800	3 400	*** 2222**	*** 2222 K**	121	189	2	0.28	3.5	2.2	2.3	6.64
	240	50	3	161 000	72 000	16 400	7 300	2 400	3 000	*** 1322**	*** 1322 K**	123	227	2.5	0.22	4.4	2.8	3.0	12
	240	80	3	211 000	94 500	21 600	9 650	2 200	2 800	*** 2322**	*** 2322 K**	123	227	2.5	0.37	2.6	1.7	1.8	17.4

Not (1) K soneki, konik delikli (1 : 12) rulmanları temsil eder

(*) *işaretli rulmanların bilyaları rulman yüzünden hafif çıkıntı yapar. Çıkıntı miktarları Sayfa **B77**'te gösterilmiştir.

Notlar Adaptörler ile ilgili ebatlar için, Sayfa **B360** ve **B361**'e bakınız.

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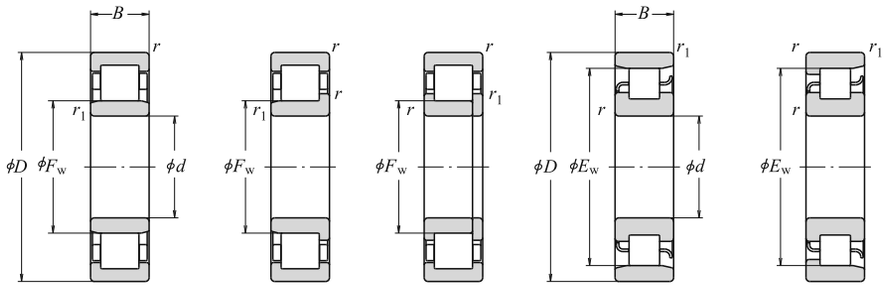
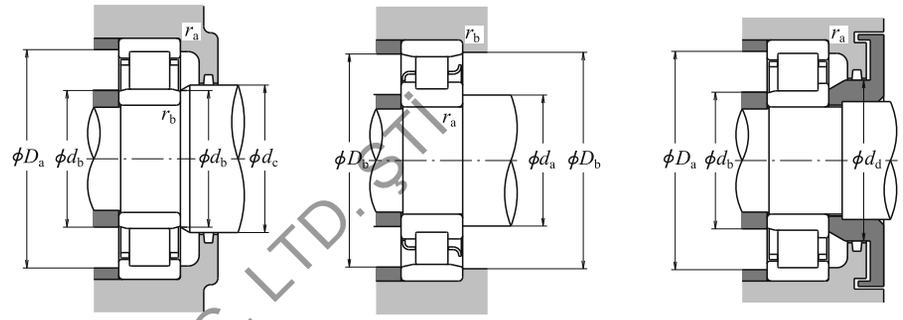
Delik Çapı 20 – 35 mm



NU NJ NUP N NF



d	D	B	r min.	r1 min.	FW	EW	Cr	C0r	Gres	Yağ	NU	NJ	NUP	N	NF	da(4) min.	db min.	db(5) maks.	dc min.	dd min.	Da(4) maks.	Db maks.	Db min.	ra maks.	rb maks.	Kütle (kg) yaklaşık
	Temel Ölçüler (mm)						Temel Yük Değerleri (N)		Limit Hızları(1) (dak⁻¹)		Rulman Numaraları(2)(3)					Dayanak ve Dolgu Ölçüleri (mm)										
20	47	14	1	0.6	–	40	15 400	12 700	15 000	18 000	**N 204**	–	–	–	**N**	**NF**	25	–	–	–	–	–	43	42	1	0.6	0.107
	47	14	1	0.6	26.5	–	25 700	22 600	13 000	16 000	**NU 204 ET**	**NU**	**NJ**	**NUP**	–	–	25	24	25	29	32	42	–	–	1	0.6	0.107
	47	18	1	0.6	27	–	20 700	18 400	13 000	16 000	**NU2204**	**NU**	**NJ**	–	–	–	25	24	25	29	32	42	–	–	1	0.6	0.144
	47	18	1	0.6	26.5	–	30 500	28 300	13 000	16 000	**NU2204 ET**	**NU**	**NJ**	**NUP**	–	–	25	24	25	29	32	42	–	–	1	0.6	0.138
	52	15	1.1	0.6	–	44.5	21 400	17 300	12 000	15 000	**N 304**	–	–	–	**N**	**NF**	26.5	–	–	–	–	–	48	46	1	0.6	0.148
	52	15	1.1	0.6	27.5	–	31 500	26 900	12 000	15 000	**NU 304 ET**	**NU**	**NJ**	**NUP**	–	–	26.5	24	26	30	33	45.5	–	–	1	0.6	0.145
	52	21	1.1	0.6	28.5	–	30 500	27 200	11 000	14 000	**NU2304**	**NU**	**NJ**	**NUP**	–	–	26.5	24	27	30	33	45.5	–	–	1	0.6	0.217
	52	21	1.1	0.6	27.5	–	42 000	39 000	11 000	14 000	**NU2304 ET**	**NU**	**NJ**	**NUP**	–	–	26.5	24	26	30	33	45.5	–	–	1	0.6	0.209
25	47	12	0.6	0.3	30.5	–	14 300	13 100	15 000	18 000	**NU1005**	**NU**	–	–	–	–	–	27	30	32	–	43	–	–	0.6	0.3	0.094
	52	15	1	0.6	–	45	17 700	15 700	13 000	16 000	**N 205**	–	–	–	**N**	**NF**	30	–	–	–	–	–	48	46	1	0.6	0.135
	52	15	1	0.6	31.5	–	29 300	27 700	12 000	14 000	**NU 205 EW**	**NU**	**NJ**	**NUP**	–	–	30	29	30	34	37	47	–	–	1	0.6	0.136
	52	18	1	0.6	31.5	–	35 000	34 500	12 000	14 000	**NU2205 ET**	**NU**	**NJ**	**NUP**	–	–	30	29	30	34	37	47	–	–	1	0.6	0.16
	62	17	1.1	1.1	–	53	29 300	25 200	10 000	13 000	**N 305**	–	–	–	**N**	**NF**	31.5	–	–	–	–	–	55.5	50	1	1	0.233
	62	17	1.1	1.1	34	–	41 500	37 500	10 000	12 000	**NU 305 EW**	**NU**	**NJ**	**NUP**	–	–	31.5	31.5	32	37	40	55.5	–	–	1	1	0.269
	62	24	1.1	1.1	34	–	57 000	56 000	9 000	11 000	**NU2305 ET**	**NU**	**NJ**	**NUP**	–	–	31.5	31.5	32	37	40	55.5	–	–	1	1	0.338
	80	21	1.5	1.5	38.8	62.8	46 500	40 000	9 000	11 000	**NU 405**	**NU**	**NJ**	–	**N**	**NF**	33	33	37	41	46	72	72	64	1.5	1.5	0.57
30	55	13	1	0.6	36.5	48.5	19 700	19 600	12 000	15 000	**NU1006**	**NU**	–	–	**N**	–	35	34	36	38	–	50	51	49	1	0.5	0.136
	62	16	1	0.6	–	53.5	24 900	23 300	11 000	13 000	**N 206**	–	–	–	**N**	**NF**	35	–	–	–	–	–	58	56	1	0.6	0.208
	62	16	1	0.6	37.5	–	39 000	37 500	9 500	12 000	**NU 206 EW**	**NU**	**NJ**	**NUP**	–	–	35	34	36	40	44	57	–	–	1	0.6	0.205
	62	20	1	0.6	37.5	–	49 000	50 000	9 500	12 000	**NU2206 ET**	**NU**	**NJ**	**NUP**	–	–	35	34	36	40	44	57	–	–	1	0.6	0.255
	72	19	1.1	1.1	–	62	38 500	35 000	8 500	11 000	**N 306**	–	–	–	**N**	**NF**	36.5	–	–	–	–	–	65.5	64	1	1	0.353
	72	19	1.1	1.1	40.5	–	53 000	50 000	8 500	10 000	**NU 306 EW**	**NU**	**NJ**	**NUP**	–	–	36.5	36.5	39	44	48	65.5	–	–	1	1	0.409
	72	27	1.1	1.1	40.5	–	74 500	77 500	8 000	9 500	**NU2306 ET**	**NU**	**NJ**	**NUP**	–	–	36.5	36.5	39	44	48	65.5	–	–	1	1	0.518
	90	23	1.5	1.5	45	73	62 500	55 000	7 500	9 500	**NU 406**	**NU**	**NJ**	–	**N**	**NF**	38	38	43	47	52	82	82	75	1.5	1.5	0.758
35	62	14	1	0.6	42	55	22 600	23 200	11 000	13 000	**NU1007**	**NU**	**NJ**	–	**N**	–	40	39	41	44	–	57	58	56	1	0.5	0.18
	72	17	1.1	0.6	–	61.8	35 500	34 000	9 500	11 000	**N 207**	–	–	–	**N**	**NF**	41.5	–	–	–	–	–	68	64	1	0.6	0.301
	72	17	1.1	0.6	44	–	50 500	50 000	8 500	10 000	**NU 207 EW**	**NU**	**NJ**	**NUP**	–	–	41.5	39	42	46	50	65.5	–	–	1	0.6	0.304
	72	23	1.1	0.6	44	–	61 500	65 500	8 500	10 000	**NU2207 ET**	**NU**	**NJ**	**NUP**	–	–	41.5	39	42	46	50	65.5	–	–	1	0.6	0.40
	80	21	1.5	1.1	–	68.2	49 500	47 000	8 000	9 500	**N 307**	–	–	–	**N**	**NF**	43	–	–	–	–	–	73.5	70	1.5	1	0.476
	80	21	1.5	1.1	46.2	–	66 500	65 500	7 500	9 500	**NU 307 EW**	**NU**	**NJ**	**NUP**	–	–	41.5	41.5	44	48	53	72	–	–	1.5	1	0.545
	80	31	1.5	1.1	46.2	–	93 000	101 000	6 700	8 500	**NU2307 ET**	**NU**	**NJ**	**NUP**	–	–	43	41.5	44	48	53	72	–	–	1.5	1	0.711
	100	25	1.5	1.5	53	83	75 500	69 000	6 700	8 500	**NU 407**	**NU**	**NJ**	–	**N**	**NF**	43	43	51	55	61	92	92	85	1.5	1.5	1.01

Notlar (1) Yukarıda listelenmiş limit hızları, işlenmiş kafesli rulmanlar için geçerlidir (Sonek yok). Sıkıştırılmış kafesli rulmanlar için, limit hızını %20 oranında azaltınız. (EM, EW veya ET sonekli rulman numaraları için geçerli değildir.)

(2) ET sonekli rulmanlarda polyamid kafes vardır. Maksimum çalışma sıcaklığı 120 °C'den daha az olmalıdır.

(3) L-şeklindeki fatura bilezikleri (Sayfa **B104**'den başlayan L-Şeklindeki Fatura Bilezikleri bölümüne bakınız) kullanıldığında, rulmanlar NH tipi olur.

(4) Eksenel yükler uygulanırsa, yukarıda listelenmiş değerlerden d_a'yı artırınız ve D_a'yı azaltınız.

(5) d_b (maksimum), NU, NJ Tiplerinin ayar bileziklerinin değerleridir.

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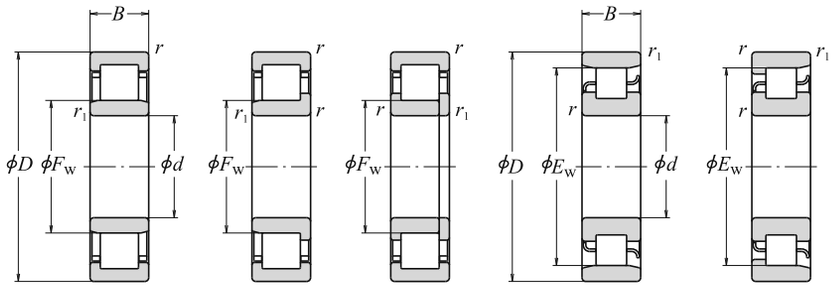
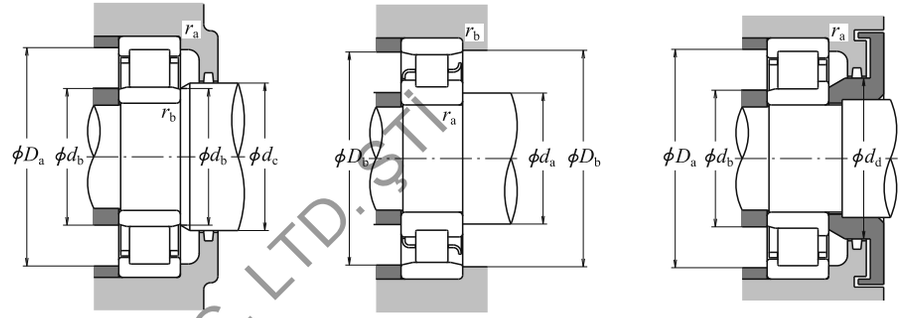
Delik Çapı 40 – 55 mm



NU NJ NUP N NF



d	D	B	r min.	r1 min.	FW	EW	Cr	C0r	Gres	Yağ
	Temel Ölçüler (mm)						Temel Yük Değerleri (N)		Limit Hızları(1) (dak⁻¹)	
40	68	15	1	0.6	47	61	27 300	29 000	10 000	12 000
	80	18	1.1	1.1	–	70	43 500	43 000	8 500	10 000
	80	18	1.1	1.1	49.5	–	55 500	55 500	7 500	9 000
	80	23	1.1	1.1	49.5	–	72 500	77 500	7 500	9 000
	90	23	1.5	1.5	–	77.5	58 500	57 000	6 700	8 500
	90	23	1.5	1.5	52	–	83 000	81 500	6 700	8 000
	90	33	1.5	1.5	52	–	114 000	122 000	6 000	7 500
	110	27	2	2	58	92	95 500	89 000	6 000	7 500
45	75	16	1	0.6	52.5	67.5	32 500	35 500	9 000	11 000
	85	19	1.1	1.1	–	75	46 000	47 000	7 500	9 000
	85	19	1.1	1.1	54.5	–	63 000	66 500	6 700	8 000
	85	23	1.1	1.1	54.5	–	76 000	84 500	6 700	8 500
	100	25	1.5	1.5	–	86.5	79 000	77 500	6 300	7 500
	100	25	1.5	1.5	58.5	–	97 500	98 500	6 000	7 500
	100	36	1.5	1.5	58.5	–	137 000	153 000	5 300	6 700
	120	29	2	2	64.5	100.5	107 000	102 000	5 600	6 700
50	80	16	1	0.6	57.5	72.5	32 000	36 000	8 000	10 000
	90	20	1.1	1.1	–	80.4	48 000	51 000	7 100	8 500
	90	20	1.1	1.1	59.5	–	69 000	76 500	6 300	7 500
	90	23	1.1	1.1	59.5	–	83 500	97 000	6 300	8 000
	110	27	2	2	–	95	87 000	86 000	5 600	6 700
	110	27	2	2	65	–	110 000	113 000	5 000	6 000
	110	40	2	2	65	–	163 000	187 000	5 000	6 300
	130	31	2.1	2.1	–	110.8	139 000	136 000	5 000	6 000
	130	31	2.1	2.1	70.8	110.8	129 000	124 000	5 000	6 000
55	90	18	1.1	1	64.5	80.5	37 500	44 000	7 500	9 000
	100	21	1.5	1.1	–	88.5	58 000	62 500	6 300	7 500
	100	21	1.5	1.1	66	–	86 500	98 500	5 600	7 100
	100	25	1.5	1.1	66	–	101 000	122 000	5 600	7 100
	120	29	2	2	–	104.5	111 000	111 000	5 000	6 300
	120	29	2	2	70.5	–	137 000	143 000	4 500	5 600
	120	43	2	2	70.5	–	201 000	233 000	4 500	5 600
	140	33	2.1	2.1	77.2	117.2	139 000	138 000	4 500	5 600

Notlar (1) Yukarıda listelenmiş limit hızları, işlenmiş kafesli rulmanlar için geçerlidir (Sonek yok). Sıkıştırılmış kafesli rulmanlar için, limit hızını %20 oranında azaltınız. (EM, EW veya ET sonekli rulman numaraları için geçerli değildir.)

(2) ET sonekli rulmanlarda polyamid kafes vardır. Maksimum çalışma sıcaklığı 120 °C'den daha az olmalıdır.

Rulman Numaraları(2)						Dayanak ve Dolgu Ölçüleri (mm)										Kütle (kg)
	NU	NJ(3)	NUP	N	NF	da(4) min.	db min.	db(5) maks.	dc min.	dd min.	Da(4) maks.	Db maks.	Db min.	ra maks.	rb maks.	yaklaşık
NU1008	**NU**	**NJ**	**NUP**	**N**	–	45	44	46	49	–	63	64	62	1	0.6	0.223
N 208	–	–	–	**N**	**NF**	46.5	–	–	–	–	–	73.5	72	1	1	0.375
NU 208 EW	**NU**	**NJ**	**NUP**	–	–	46.5	46.5	48	52	56	73.5	–	–	1	1	0.379
NU2208 ET	**NU**	**NJ**	**NUP**	–	–	46.5	46.5	48	52	56	73.5	–	–	1	1	0.480
N 308	–	–	–	**N**	**NF**	48	–	–	–	–	–	82	79	1.5	1.5	0.649
NU 308 EW	**NU**	**NJ**	**NUP**	–	–	48	48	50	55	60	82	–	–	1.5	1.5	0.747
NU2308 ET	**NU**	**NJ**	**NUP**	–	–	48	48	50	55	60	82	–	–	1.5	1.5	0.933
NU 408	**NU**	**NJ**	**NUP**	**N**	**NF**	49	49	56	60	67	101	101	94	2	2	1.28
NU1009	**NU**	–	–	**N**	**NF**	50	49	51	54	–	70	71	68	1	0.6	0.279
N 209	–	–	–	**N**	**NF**	51.5	–	–	–	–	–	78.5	77	1	1	0.429
NU 209 EW	**NU**	**NJ**	**NUP**	–	–	51.5	51.5	52	57	61	78.5	–	–	1	1	0.438
NU2209 ET	**NU**	**NJ**	**NUP**	–	–	51.5	51.5	52	57	61	78.5	–	–	1	1	0.521
N 309	–	–	–	**N**	**NF**	53	–	–	–	–	–	92	77	1.5	1.5	0.869
NU 309 EW	**NU**	**NJ**	**NUP**	–	–	53	53	56	60	66	92	–	–	1.5	1.5	1.01
NU2309 ET	**NU**	**NJ**	**NUP**	–	–	53	53	56	60	66	92	–	–	1.5	1.5	1.28
NU 409	**NU**	**NJ**	**NUP**	**N**	**NF**	54	54	62	66	74	111	111	103	2	2	1.62
NU1010	**NU**	**NJ**	**NUP**	**N**	–	55	54	56	59	–	75	76	73	1	0.6	0.301
N 210	–	–	–	**N**	**NF**	56.5	–	–	–	–	–	83.5	82	1	1	0.483
NU 210 EW	**NU**	**NJ**	**NUP**	–	–	56.5	56.5	57	62	67	83.5	–	–	1	1	0.50
NU2210 ET	**NU**	**NJ**	**NUP**	–	–	56.5	56.5	57	62	67	83.5	–	–	1	1	0.562
N 310	–	–	–	**N**	**NF**	59	–	–	–	–	–	101	97	2	2	1.11
NU 310 EW	**NU**	**NJ**	**NUP**	–	–	59	59	63	67	73	101	–	–	2	2	1.3
NU2310 ET	**NU**	**NJ**	**NUP**	–	–	59	59	63	67	73	101	–	–	2	2	1.7
N 410	–	–	–	**N**	**NF**	65	–	–	–	–	–	117	113	2	2	2.0
NU 410	**NU**	**NJ**	**NUP**	**N**	**NF**	61	61	68	73	81	119	119	113.3	2	2	1.99
NU1011	**NU**	**NJ**	–	**N**	–	61.5	60	63	66	–	83.5	85	82	1	1	0.445
N 211	–	–	–	**N**	**NF**	63	–	–	–	–	–	93.5	91	1.5	1	0.634
NU 211 EW	**NU**	**NJ**	**NUP**	–	–	63	61.5	64	68	73	92	–	–	1.5	1	0.669
NU2211 ET	**NU**	**NJ**	**NUP**	–	–	63	61.5	64	68	73	92	–	–	1.5	1	0.783
N 311	–	–	–	**N**	**NF**	64	–	–	–	–	–	111	107	2	2	1.42
NU 311 EW	**NU**	**NJ**	**NUP**	–	–	64	64	68	72	80	111	–	–	2	2	1.64
NU2311 ET	**NU**	**NJ**	**NUP**	–	–	64	64	68	72	80	111	–	–	2	2	2.18
NU 411	**NU**	**NJ**	**NUP**	**N**	**NF**	66	66	75	79	87	129	129	119	2	2	2.5

Notlar (3) L-şeklindeki fatura bilezikleri (Sayfa **B104**'den başlayan L-Şeklindeki Fatura Bilezikleri bölümüne bakınız) kullanıldığında, rulmanlar NH tipi olur.

(4) Eksenel yükler uygulanırsa, yukarıda listelenmiş değerlerden d_a'yı artırınız ve D_a'yı azaltınız.

(5) d_b (maksimum), NU, NJ Tiplerinin ayar bileziklerinin değerleridir.

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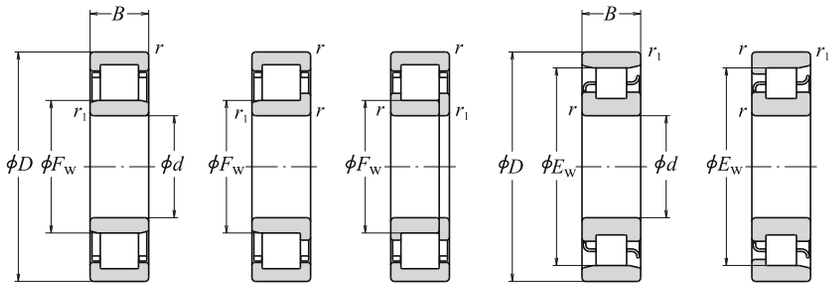
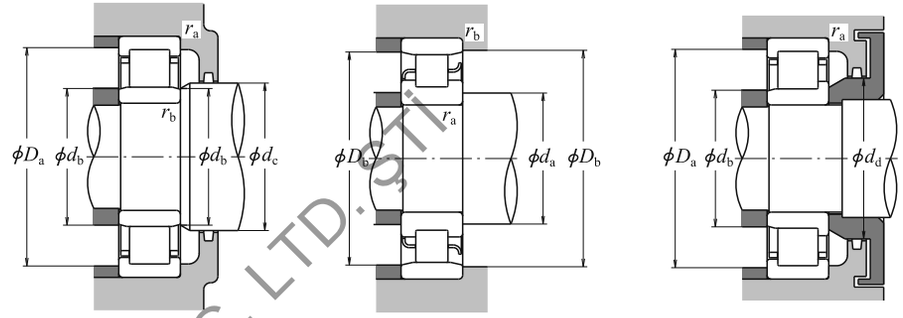
Delik Çapı 60 – 75 mm



NU NJ NUP N NF



d	D	B	r min.	r1 min.	FW	EW	Cr	C0r	Gres	Yağ	Rulman Numaraları(2) NU	NJ(3)	NUP	N	NF	da(4) min.	db min.	db(5) maks.	dc min.	dd min.	Da(4) maks.	Db maks.	Db min.	ra maks.	rb maks.	Kütle (kg) yaklaşık
60	95	18	1.1	1	69.5	85.5	40 000	48 500	6 700	8 500	**NU1012**	**NU**	**NJ**	–	**N**	**NF**	66.5	65	68	71	–	88.5	90	87	1	1	0.474
	110	22	1.5	1.5	–	97.5	68 500	75 000	6 000	7 100	**N 212**	–	–	–	**N**	**NF**	68	–	–	–	–	–	102	100	1.5	1.5	0.823
	110	22	1.5	1.5	72	–	97 500	107 000	5 300	6 300	**NU 212 EW**	**NU**	**NJ**	**NUP**	–	–	68	68	70	75	80	102	–	–	1.5	1.5	0.824
	110	28	1.5	1.5	72	–	131 000	157 000	5 300	6 300	**NU2212 ET**	**NU**	**NJ**	**NUP**	–	–	68	68	70	75	80	102	–	–	1.5	1.5	1.06
	130	31	2.1	2.1	–	113	124 000	126 000	4 800	5 600	**N 312**	–	–	–	**N**	**NF**	71	–	–	–	–	–	119	115	2	2	1.78
	130	31	2.1	2.1	77	–	124 000	126 000	4 800	5 600	**NU 312**	**NU**	**NJ**	**NUP**	–	–	71	71	75	79	86	119	–	–	2	2	1.82
	130	31	2.1	2.1	77	–	150 000	157 000	4 800	5 600	**NU 312 EM**	**NU**	**NJ**	**NUP**	–	–	71	71	75	79	86	119	–	–	2	2	2.06
	130	46	2.1	2.1	77	–	222 000	262 000	4 300	5 300	**NU2312 ET**	**NU**	**NJ**	**NUP**	–	–	71	71	75	79	86	119	–	–	2	2	2.7
	150	35	2.1	2.1	83	127	167 000	168 000	4 300	5 300	**NU 412**	**NU**	**NJ**	**NUP**	**N**	**NF**	71	71	80	85	94	139	139	130	2	2	3.04
65	100	18	1.1	1	74.5	90.5	41 000	51 000	6 300	8 000	**NU1013**	**NU**	**NJ**	–	**N**	**NF**	71.5	70	73	76	–	93.5	95	92	1	1	0.504
	120	23	1.5	1.5	–	105.6	84 000	94 500	5 300	6 300	**N 213**	–	–	–	**N**	**NF**	73	–	–	–	–	–	112	108	1.5	1.5	1.05
	120	23	1.5	1.5	78.5	–	108 000	119 000	4 800	5 600	**NU 213 EW**	**NU**	**NJ**	**NUP**	–	–	73	73	76	81	87	112	–	–	1.5	1.5	1.05
	120	31	1.5	1.5	78.5	–	149 000	181 000	4 800	6 000	**NU2213 ET**	**NU**	**NJ**	**NUP**	–	–	73	73	76	81	87	112	–	–	1.5	1.5	1.41
	140	33	2.1	2.1	–	121.5	135 000	139 000	4 300	5 300	**N 313**	–	–	–	**N**	**NF**	76	–	–	–	–	–	129	125	2	2	2.17
	140	33	2.1	2.1	83.5	–	135 000	139 000	4 300	5 300	**NU 313**	**NU**	**NJ**	**NUP**	–	–	76	76	81	85	93	129	–	–	2	2	2.23
	140	33	2.1	2.1	82.5	–	181 000	191 000	4 300	5 300	**NU 313 EM**	**NU**	**NJ**	**NUP**	–	–	76	76	80	85	93	129	–	–	2	2	2.56
	140	48	2.1	2.1	82.5	–	233 000	265 000	3 800	4 800	**NU2313 ET**	**NU**	**NJ**	**NUP**	–	–	76	76	80	85	93	129	–	–	2	2	3.16
	160	37	2.1	2.1	89.3	135.3	182 000	186 000	4 000	4 800	**NU 413**	**NU**	**NJ**	–	**N**	**NF**	76	76	86	91	100	149	149	138.8	2	2	3.63
70	110	20	1.1	1	80	100	58 500	70 500	6 000	7 100	**NU1014**	**NU**	**NJ**	**NUP**	**N**	**NF**	76.5	75	79	82	–	103.5	105	101	1	1	0.693
	125	24	1.5	1.5	–	110.5	83 500	95 000	5 000	6 300	**N 214**	–	–	–	**N**	**NF**	78	–	–	–	–	–	117	113	1.5	1.5	1.14
	125	24	1.5	1.5	83.5	–	119 000	137 000	5 000	6 300	**NU 214 EM**	**NU**	**NJ**	**NUP**	–	–	78	78	81	86	92	117	–	–	1.5	1.5	1.29
	125	31	1.5	1.5	83.5	–	156 000	194 000	4 500	5 600	**NU2214 ET**	**NU**	**NJ**	**NUP**	–	–	78	78	81	86	92	117	–	–	1.5	1.5	1.49
	150	35	2.1	2.1	–	130	149 000	156 000	4 000	5 000	**N 314**	–	–	–	**N**	**NF**	81	–	–	–	–	–	139	133.5	2	2	2.67
	150	35	2.1	2.1	90	–	158 000	168 000	4 000	5 000	**NU 314**	**NU**	**NJ**	**NUP**	–	–	81	81	87	92	100	139	–	–	2	2	2.75
	150	35	2.1	2.1	89	–	205 000	222 000	4 000	5 000	**NU 314 EM**	**NU**	**NJ**	**NUP**	–	–	81	81	86	92	100	139	–	–	2	2	3.09
	150	51	2.1	2.1	89	–	274 000	325 000	3 600	4 500	**NU2314 ET**	**NU**	**NJ**	**NUP**	–	–	81	81	86	92	100	139	–	–	2	2	3.92
	180	42	3	3	100	152	228 000	236 000	3 600	4 300	**NU 414**	**NU**	**NJ**	**NUP**	**N**	**NF**	83	83	97	102	112	167	167	155	2.5	2.5	5.28
75	115	20	1.1	1	85	105	60 000	74 500	5 600	6 700	**NU1015**	**NU**	–	–	**N**	**NF**	81.5	80	83	87	–	108.5	110	106	1	1	0.731
	130	25	1.5	1.5	–	116.5	96 500	111 000	4 800	6 000	**N 215**	–	–	–	**N**	**NF**	83	–	–	–	–	–	122	119	1.5	1.5	1.23
	130	25	1.5	1.5	88.5	–	130 000	156 000	4 800	6 000	**NU 215 EM**	**NU**	**NJ**	**NUP**	–	–	83	83	86	90	96	122	–	–	1.5	1.5	1.44
	130	31	1.5	1.5	88.5	–	162 000	207 000	4 300	5 300	**NU2215 ET**	**NU**	**NJ**	**NUP**	–	–	83	83	86	90	96	122	–	–	1.5	1.5	1.57
	160	37	2.1	2.1	–	139.5	179 000	189 000	3 800	4 800	**N 315**	–	–	–	**N**	**NF**	86	–	–	–	–	–	149	143	2	2	3.2
	160	37	2.1	2.1	95.5	–	179 000	189 000	3 800	4 800	**NU 315**	**NU**	**NJ**	**NUP**	–	–	86	86	93	97	106	149	–	–	2	2	3.26
	160	37	2.1	2.1	95	–	240 000	263 000	3 800	4 800	**NU 315 EM**	**NU**	**NJ**	**NUP**	–	–	86	86	92	97	106	149	–	–	2	2	3.73
	160	55	2.1	2.1	95	–	330 000	395 000	3 400	4 300	**NU2315 ET**	**NU**	**NJ**	**NUP**	–	–	86	86	92	97	106	149	–	–	2	2	4.86
	190	45	3	3	104.5	160.5	262 000	274 000	3 400	4 000	**NU 415**	**NU**	**NJ**	–	**N**	**NF**	88	88	102	107	118	177	177	164	2.5	2.5	6.27

Notlar (1) Yukarıda listelenmiş limit hızları, işlenmiş kafesli rulmanlar için geçerlidir (Sonek yok). Sıkıştırılmış kafesli rulmanlar için, limit hızını %20 oranında azaltınız. (EM, EW veya ET sonekli rulman numaraları için geçerli değildir.)

(2) ET sonekli rulmanlarda polyamid kafes vardır. Maksimum çalışma sıcaklığı 120 °C'den daha az olmalıdır.

(3) L-şeklindeki fatura bilezikleri (Sayfa **B104**'den başlayan L-Şeklindeki Fatura Bilezikleri bölümüne bakınız) kullanıldığında, rulmanlar NH tipi olur.

(4) Eksenel yükler uygulanırsa, yukarıda listelenmiş değerlerden d_a'yı artırınız ve D_a'yı azaltınız.

(5) d_b (maksimum), NU, NJ Tiplerinin ayar bileziklerinin değerleridir.

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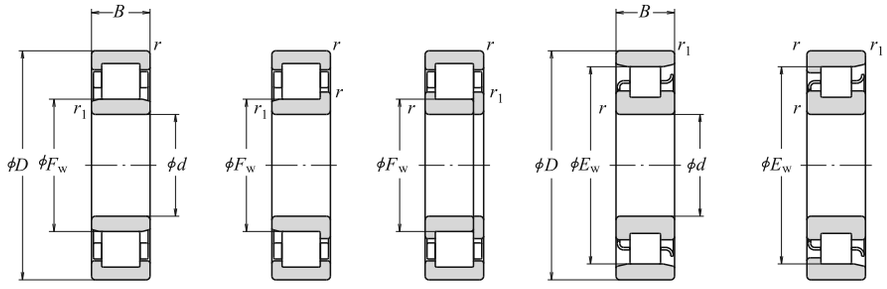
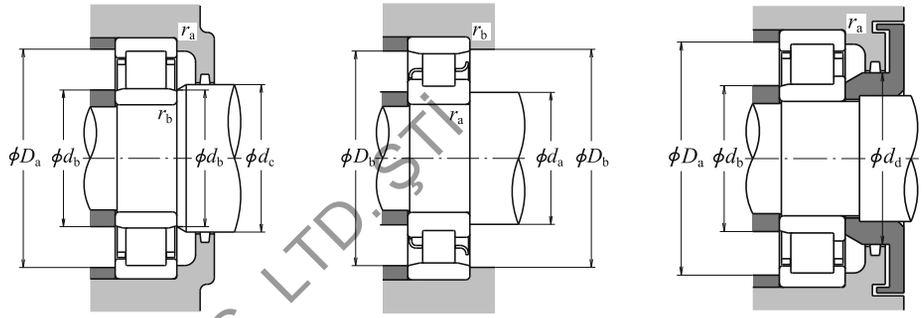
Delik Çapı 80 – 95 mm



NU NJ NUP N NF



d	D	B	r min.	r1 min.	FW	EW	Cr	C0r	Gres	Yağ
	Temel Ölçüler (mm)						Temel Yük Değerleri (N)		Limit Hızları(1) (dak⁻¹)	
80	125	22	1.1	1	91.5	113.5	72 500	90 500	5 300	6 300
	140	26	2	2	–	125.3	106 000	122 000	4 500	5 300
	140	26	2	2	95.3	–	139 000	167 000	4 500	5 300
	140	33	2	2	95.3	–	186 000	243 000	4 000	5 000
	170	39	2.1	2.1	–	147	190 000	207 000	3 600	4 300
	170	39	2.1	2.1	101	–	256 000	282 000	3 600	4 300
	170	58	2.1	2.1	101	–	355 000	430 000	3 200	4 000
	200	48	3	3	110	170	299 000	315 000	3 200	3 800
85	130	22	1.1	1	96.5	118.5	74 500	95 500	5 000	6 000
	150	28	2	2	–	133.8	120 000	140 000	4 300	5 000
	150	28	2	2	100.5	–	167 000	199 000	4 300	5 000
	150	36	2	2	100.5	–	217 000	279 000	3 800	4 500
	180	41	3	3	–	156	225 000	247 000	3 400	4 000
	180	41	3	3	108	–	212 000	228 000	3 400	4 000
	180	41	3	3	108	–	291 000	330 000	3 400	4 000
	180	60	3	3	108	–	395 000	485 000	3 000	3 800
	210	52	4	4	113	177	335 000	350 000	3 000	3 800
90	140	24	1.5	1.1	103	127	88 000	114 000	4 500	5 600
	160	30	2	2	–	143	152 000	178 000	4 000	4 800
	160	30	2	2	107	–	182 000	217 000	4 000	4 800
	160	40	2	2	107	–	242 000	315 000	3 600	4 300
	190	43	3	3	–	165	240 000	265 000	3 200	3 800
	190	43	3	3	115	–	240 000	265 000	3 200	3 800
	190	43	3	3	113.5	–	315 000	355 000	3 200	3 800
	190	64	3	3	113.5	–	435 000	535 000	2 800	3 400
	225	54	4	4	123.5	191.5	375 000	400 000	2 800	3 400
95	145	24	1.5	1.1	108	132	90 500	120 000	4 300	5 300
	170	32	2.1	2.1	–	151.5	166 000	196 000	3 800	4 500
	170	32	2.1	2.1	112.5	–	220 000	265 000	3 800	4 500
	170	43	2.1	2.1	112.5	–	286 000	370 000	3 400	4 000
	200	45	3	3	–	173.5	259 000	289 000	3 000	3 600
	200	45	3	3	121.5	–	259 000	289 000	3 000	3 600
	200	45	3	3	121.5	–	335 000	385 000	3 000	3 600
	200	67	3	3	121.5	–	460 000	585 000	2 600	3 400
	240	55	4	4	133.5	201.5	400 000	445 000	2 600	3 200

Notlar (1) Yukarıda listelenmiş limit hızları, işlenmiş kafesli rulmanlar için geçerlidir (Sonek yok). Sıkıştırılmış kafesli rulmanlar için, limit hızını %20 oranında azaltınız. (EM, EW veya ET sonekli rulman numaraları için geçerli değildir.)

(2) ET sonekli rulmanlarda polyamid kafes vardır. Maksimum çalışma sıcaklığı 120 °C'den daha az olmalıdır.

Rulman Numaraları(2)						Dayanak ve Dolgu Ölçüleri (mm)										Kütle (kg)
	NU	NJ(3)	NUP	N	NF	da(4) min.	db min.	db(5) maks.	dc min.	dd min.	Da(4) maks.	Db maks.	Db min.	ra maks.	rb maks.	yaklaşık
NU1016	NU	–	NUP	N	–	86.5	85	90	94	–	118.5	120	115	1	1	0.969
N 216	–	–	–	N	NF	89	–	–	–	–	–	131	128	2	2	1.47
NU 216 EM	NU	NJ	NUP	–	–	89	89	92	97	104	131	–	–	2	2	1.7
NU2216 ET	NU	NJ	NUP	–	–	89	89	92	97	104	131	–	–	2	2	1.96
N 316	–	–	–	N	NF	91	–	–	–	–	–	159	150	2	2	3.85
NU 316 EM	NU	NJ	NUP	–	–	91	91	98	105	114	159	–	–	2	2	4.45
NU2316 ET	NU	NJ	NUP	–	–	91	91	98	105	114	159	–	–	2	2	5.73
NU 416	NU	NJ	–	N	NF	93	93	107	112	124	187	187	173	2.5	2.5	7.36
NU1017	NU	–	–	N	–	91.5	90	95	99	–	123.5	125	120	1	1	1.01
N 217	–	–	–	N	NF	94	–	–	–	–	–	141	137	2	2	1.87
NU 217 EM	NU	NJ	NUP	–	–	94	94	98	104	110	141	–	–	2	2	2.11
NU2217 ET	NU	NJ	NUP	–	–	94	94	98	104	110	141	–	–	2	2	2.44
N 317	–	–	–	N	NF	98	–	–	–	–	–	167	159	2.5	2.5	4.53
NU 317	NU	NJ	NUP	–	–	98	98	105	110	119	167	–	–	2.5	2.5	4.6
NU 317 EM	NU	NJ	NUP	–	–	98	98	105	110	119	167	–	–	2.5	2.5	5.26
NU2317 ET	NU	NJ	NUP	–	–	98	98	105	110	119	167	–	–	2.5	2.5	6.77
NU 417	NU	NJ	–	N	NF	101	101	110	115	128	194	194	180	3	3	9.56
NU1018	NU	–	NUP	N	–	98	96.5	101	106	–	132	133.5	129	1.5	1	1.35
N 218	–	–	–	N	NF	99	–	–	–	–	–	151	146	2	2	2.31
NU 218 EM	NU	NJ	NUP	–	–	99	99	104	109	116	151	–	–	2	2	2.6
NU2218 ET	NU	NJ	NUP	–	–	99	99	104	109	116	151	–	–	2	2	3.11
N 318	–	–	–	N	NF	103	–	–	–	–	–	177	168	2.5	2.5	5.31
NU 318	NU	NJ	NUP	–	–	103	103	112	117	127	177	–	–	2.5	2.5	5.38
NU 318 EM	NU	NJ	NUP	–	–	103	103	111	117	127	177	–	–	2.5	2.5	6.1
NU2318 ET	NU	NJ	NUP	–	–	103	103	111	117	127	177	–	–	2.5	2.5	7.9
NU 418	NU	NJ	–	N	NF	106	106	120	125	139	209	209	196	3	3	11.5
NU1019	NU	NJ	–	N	–	103	101.5	106	111	–	137	138.5	134	1.5	1	1.41
N 219	–	–	–	N	NF	106	–	–	–	–	–	159	155	2	2	2.79
NU 219 EM	NU	NJ	NUP	–	–	106	106	110	116	123	159	–	–	2	2	3.17
NU2219 ET	NU	NJ	NUP	–	–	106	106	110	116	123	159	–	–	2	2	3.81
N 319	–	–	–	N	NF	108	–	–	–	–	–	187	177	2.5	2.5	6.09
NU 319	NU	NJ	NUP	–	–	108	108	118	124	134	187	–	–	2.5	2.5	6.23
NU 319 EM	NU	NJ	NUP	–	–	108	108	118	124	134	187	–	–	2.5	2.5	7.13
NU2319 ET	NU	NJ	NUP	–	–	108	108	118	124	134	187	–	–	2.5	2.5	9.21
NU 419	NU	NJ	NUP	–	NF	111	111	130	136	149	224	224	206	3	3	13.6

Notlar (3) L-şeklindeki fatura bilezikleri (Sayfa **B104**'den başlayan L-Şeklindeki Fatura Bilezikleri bölümüne bakınız) kullanıldığında, rulmanlar NH tipi olur.

(4) Eksenel yükler uygulanırsa, yukarıda listelenmiş değerlerden d_a'yı artırınız ve D_a'yı azaltınız.

(5) d_b (maksimum), NU, NJ Tiplerinin ayar bileziklerinin değerleridir.

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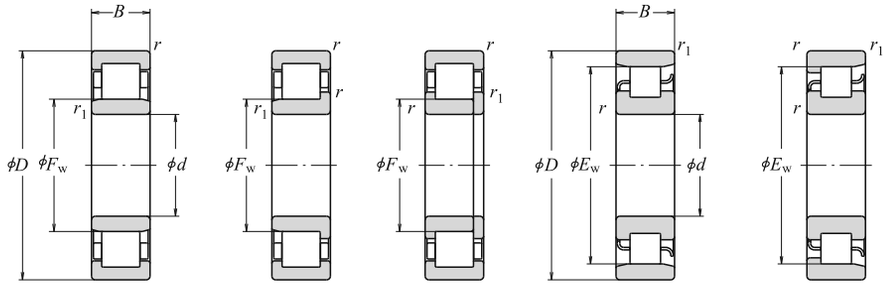
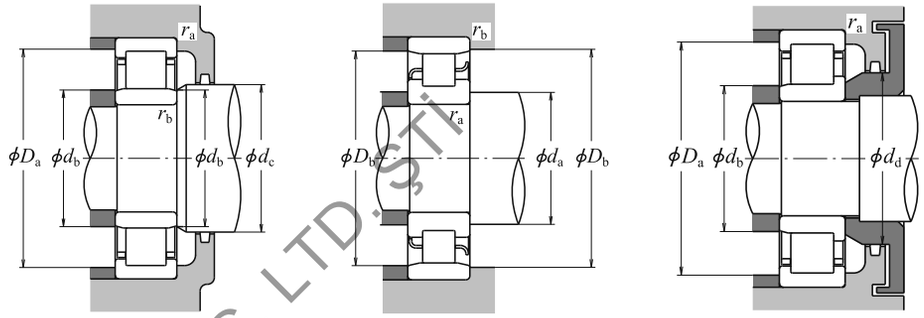
Delik Çapı 100 – 120 mm



NU NJ NUP N NF



Temel Ölçüler (mm)							Temel Yük Değerleri (N)		Limit Hızları(1) (dak⁻¹)	
d	D	B	r min.	r_1 min.	F_W	E_W	C_r	C_{0r}	Gres	Yağ
100	150	24	1.5	1.1	113	137	93 000	126 000	4 300	5 300
	180	34	2.1	2.1	–	160	183 000	217 000	3 600	4 300
	180	34	2.1	2.1	119	–	249 000	305 000	3 600	4 300
	180	46	2.1	2.1	119	–	335 000	445 000	3 200	3 800
	215	47	3	3	–	185.5	299 000	335 000	2 800	3 400
	215	47	3	3	129.5	–	299 000	335 000	2 800	3 400
	215	47	3	3	127.5	–	380 000	425 000	2 800	3 400
	215	73	3	3	127.5	–	570 000	715 000	2 400	3 000
	250	58	4	4	139	211	450 000	500 000	2 600	3 000
105	160	26	2	1.1	119.5	145.5	109 000	149 000	4 000	4 800
	190	36	2.1	2.1	–	168.8	201 000	241 000	3 400	4 000
	190	36	2.1	2.1	125	–	262 000	310 000	3 400	4 000
	225	49	3	3	–	195	340 000	390 000	2 600	3 200
	225	49	3	3	133	–	425 000	480 000	2 600	3 200
	260	60	4	4	144.5	220.5	495 000	555 000	2 400	3 000
110	170	28	2	1.1	125	155	131 000	174 000	3 800	4 500
	200	38	2.1	2.1	–	178.5	229 000	272 000	3 200	3 800
	200	38	2.1	2.1	132.5	–	293 000	365 000	3 200	3 800
	200	53	2.1	2.1	132.5	–	385 000	515 000	2 800	3 400
	240	50	3	3	–	207	380 000	435 000	2 600	3 000
	240	50	3	3	143	–	450 000	525 000	2 600	3 000
	280	65	4	4	155	–	550 000	620 000	2 200	2 800
120	180	28	2	1.1	135	165	139 000	191 000	3 400	4 300
	215	40	2.1	2.1	–	191.5	260 000	320 000	3 000	3 400
	215	40	2.1	2.1	143.5	–	335 000	420 000	3 000	3 400
	215	58	2.1	2.1	143.5	–	450 000	620 000	2 600	3 200
	260	55	3	3	–	226	450 000	510 000	2 200	2 800
	260	55	3	3	154	–	530 000	610 000	2 200	2 800
	260	86	3	3	154	–	795 000	1 030 000	2 000	2 600
	310	72	5	5	170	260	675 000	770 000	2 000	2 400

Rulman Numaraları(2)						Dayanak ve Dolgu Ölçüleri (mm)										Kütle (kg)
	NU	NJ(3)	NUP	N	NF	d_a(4) min.	d_b min.	d_b(5) maks.	d_c min.	d_d min.	D_a(4) maks.	D_b maks.	D_b min.	r_a maks.	r_b maks.	yaklaşık
NU1020	**NU**	**NJ**	**NUP**	**N**	–	108	106.5	111	116	–	142	143.5	139	1.5	1	1.47
N 220	–	–	–	**N**	**NF**	111	–	–	–	–	–	169	163	2	2	3.36
NU 220 EM	**NU**	**NJ**	**NUP**	–	–	111	111	116	122	130	169	–	–	2	2	3.81
NU2220 ET	**NU**	**NJ**	**NUP**	–	–	111	111	116	122	130	169	–	–	2	2	4.69
N 320	–	–	–	**N**	**NF**	113	–	–	–	–	–	202	190	2.5	2.5	7.59
NU 320	**NU**	**NJ**	**NUP**	–	–	113	113	126	132	143	202	–	–	2.5	2.5	7.69
NU 320 EM	**NU**	**NJ**	**NUP**	–	–	113	113	124	132	143	202	–	–	2.5	2.5	8.63
NU2320 ET	**NU**	**NJ**	**NUP**	–	–	113	113	124	132	143	202	–	–	2.5	2.5	11.8
NU 420	**NU**	**NJ**	–	**N**	**NF**	116	116	135	141	156	234	234	215	3	3	15.5
NU1021	**NU**	–	–	**N**	**NF**	114	111.5	118	122	–	151	153.5	147	2	1	1.83
N 221	–	–	–	**N**	**NF**	116	–	–	–	–	–	179	172	2	2	4.0
NU 221 EM	**NU**	**NJ**	**NUP**	–	–	116	116	121	129	137	179	–	–	2	2	4.58
N 321	–	–	–	**N**	**NF**	118	–	–	–	–	–	212	199	2.5	2.5	8.69
NU 321 EM	**NU**	**NJ**	**NUP**	–	–	118	118	131	137	149	212	–	–	2.5	2.5	9.84
NU 421	**NU**	**NJ**	–	**N**	**NF**	121	121	141	147	162	244	244	225	3	3	17.3
NU1022	**NU**	**NJ**	–	**N**	**NF**	119	116.5	123	128	–	161	163.5	157	2	1	2.27
N 222	–	–	–	**N**	**NF**	121	–	–	–	–	–	189	182	2	2	4.64
NU 222 EM	**NU**	**NJ**	**NUP**	–	–	121	121	129	135	144	189	–	–	2	2	5.37
NU2222 EM	**NU**	**NJ**	**NUP**	–	–	121	121	129	135	144	189	–	–	2	2	7.65
N 322	–	–	–	**N**	**NF**	123	–	–	–	–	–	227	211	2.5	2.5	10.3
NU 322 EM	**NU**	**NJ**	**NUP**	–	–	123	123	139	145	158	227	–	–	2.5	2.5	11.8
NU 422	**NU**	**NJ**	–	–	–	126	126	151	157	173	264	–	–	3	3	22.1
NU1024	**NU**	**NJ**	**NUP**	**N**	–	129	126.5	133	138	–	171	173.5	167	2	1	2.43
N 224	–	–	–	**N**	**NF**	131	–	–	–	–	–	204	196	2	2	5.63
NU 224 EM	**NU**	**NJ**	**NUP**	–	–	131	131	140	146	156	204	–	–	2	2	6.43
NU2224 EM	**NU**	**NJ**	**NUP**	–	–	131	131	140	146	156	204	–	–	2	2	9.51
N 324	–	–	–	**N**	**NF**	133	–	–	–	–	–	247	230	2.5	2.5	12.9
NU 324 EM	**NU**	**NJ**	**NUP**	–	–	133	133	150	156	171	247	–	–	2.5	2.5	15
NU2324 EM	**NU**	**NJ**	**NUP**	–	–	133	133	150	156	171	247	–	–	2.5	2.5	25
NU 424	**NU**	**NJ**	**NUP**	**N**	–	140	140	166	172	190	290	290	266	4	4	30.2

Notlar (1) Yukarıda listelenmiş limit hızları, işlenmiş kafesli rulmanlar için geçerlidir (Sonek yok). Sıkıştırılmış kafesli rulmanlar için, limit hızını %20 oranında azaltınız. (EM, EW veya ET sonekli rulman numaraları için geçerli değildir.)
(2) ET sonekli rulmanlarda polyamid kafes vardır. Maksimum çalışma sıcaklığı 120 °C'den daha az olmalıdır.

Notlar (3) L-şeklindeki fatura bilezikleri (Sayfa **B104**'den başlayan L-Şeklindeki Fatura Bilezikleri bölümüne bakınız) kullanıldığında, rulmanlar NH tipi olur.
(4) Eksenel yükler uygulanırsa, yukarıda listelenmiş değerlerden d_a'yı artırınız ve D_a'yı azaltınız.
(5) d_b (maksimum), NU, NJ Tiplerinin ayar bileziklerinin değerleridir.

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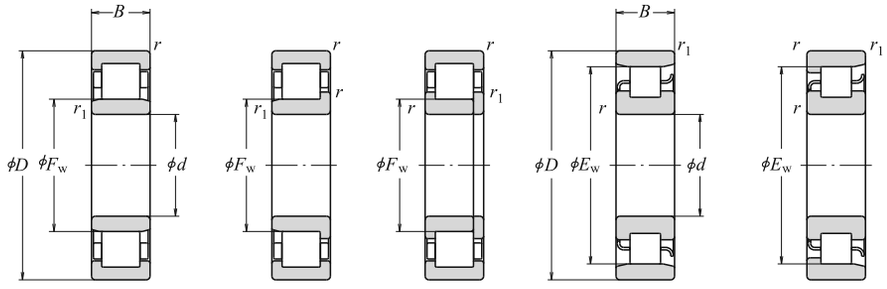
Delik Çapı 130 – 160 mm



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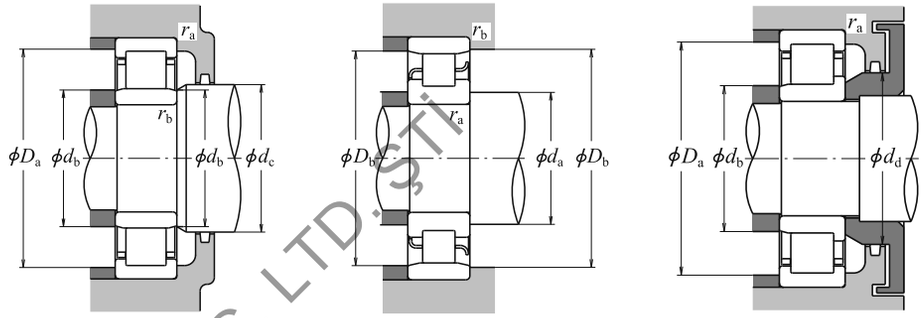

Temel Ölçüler (mm)							Temel Yük Değerleri (N)		Limit Hızları(1) (dak⁻¹)	
d	D	B	r min.	r_1 min.	F_W	E_W	C_r	C_{0r}	Gres	Yağ
130	200	33	2	1.1	148	182	172 000	238 000	3 200	3 800
	230	40	3	3	–	204	270 000	340 000	2 600	3 200
	230	40	3	3	153.5	–	365 000	455 000	2 600	3 200
	230	64	3	3	153.5	–	530 000	735 000	2 400	3 000
	280	58	4	4	–	243	500 000	570 000	2 200	2 600
	280	58	4	4	167	–	615 000	735 000	2 200	2 600
	280	93	4	4	167	–	920 000	1 230 000	1 900	2 400
	340	78	5	5	185	285	825 000	955 000	1 800	2 200
140	210	33	2	1.1	158	192	176 000	250 000	3 000	3 600
	250	42	3	3	–	221	297 000	375 000	2 400	3 000
	250	42	3	3	169	–	395 000	515 000	2 400	3 000
	250	68	3	3	169	–	550 000	790 000	2 200	2 800
	300	62	4	4	–	260	550 000	640 000	2 000	2 400
	300	62	4	4	180	–	665 000	795 000	2 000	2 400
	300	102	4	4	180	–	1 020 000	1 380 000	1 700	2 200
	360	82	5	5	198	302	875 000	1 020 000	1 700	2 000
150	225	35	2.1	1.5	169.5	205.5	202 000	294 000	2 800	3 400
	270	45	3	3	–	238	360 000	465 000	2 200	2 800
	270	45	3	3	182	–	450 000	595 000	2 200	2 800
	270	73	3	3	182	–	635 000	930 000	2 000	2 600
	320	65	4	4	–	277	665 000	805 000	1 800	2 200
	320	65	4	4	193	–	760 000	920 000	1 800	2 200
	320	108	4	4	193	–	1 160 000	1 600 000	1 600	2 000
	380	85	5	5	213	–	930 000	1 120 000	1 600	2 000
160	240	38	2.1	1.5	180	220	238 000	340 000	2 600	3 200
	290	48	3	3	–	255	430 000	570 000	2 200	2 600
	290	48	3	3	195	–	500 000	665 000	2 200	2 600
	290	80	3	3	193	–	810 000	1 190 000	1 900	2 400
	340	68	4	4	–	292	700 000	875 000	1 700	2 000
	340	68	4	4	204	–	860 000	1 050 000	1 700	2 000
	340	114	4	4	204	–	1 310 000	1 820 000	1 500	1 900

Rulman Numaraları(2)						Dayanak ve Dolgu Ölçüleri (mm)										Kütle (kg)
	NU	NJ(3)	NUP	N	NF	d_a(4) min.	d_b min.	d_b(5) maks.	d_c min.	d_d min.	D_a(4) maks.	D_b maks.	D_b min.	r_a maks.	r_b maks.	yaklaşık
NU1026	**NU**	**NJ**	–	**N**	**NF**	139	136.5	146	151	–	191	193.5	184	2	1	3.66
N 226	–	–	–	**N**	**NF**	143	–	–	–	–	–	217	208	2.5	2.5	6.48
NU 226 EM	**NU**	**NJ**	**NUP**	–	–	143	143	150	158	168	217	–	–	2.5	2.5	8.03
NU2226 EM	**NU**	**NJ**	**NUP**	–	–	143	143	150	158	168	217	–	–	2.5	2.5	9.44
N 326	–	–	–	**N**	**NF**	146	–	–	–	–	–	264	247.5	3	3	17.7
NU326EM	**NU**	**NJ**	**NUP**	–	–	146	146	163	169	184	264	–	–	3	3	18.7
NU2326EM	**NU**	**NJ**	**NUP**	–	–	146	146	163	169	184	264	–	–	3	3	30
NU 426	**NU**	**NJ**	–	–	**NF**	150	150	180	187	208	320	320	291	4	4	39.6
NU1028	**NU**	**NJ**	**NUP**	**N**	–	149	146.5	156	161	–	201	203.5	194	2	1	3.87
N 228	–	–	–	**N**	**NF**	153	–	–	–	–	–	237	225	2.5	2.5	8.08
NU228EM	**NU**	**NJ**	**NUP**	–	–	153	153	165	171	182	237	–	–	2.5	2.5	9.38
NU2228EM	**NU**	**NJ**	**NUP**	–	–	153	153	165	171	182	237	–	–	2.5	2.5	15.2
N 328	–	–	–	**N**	**NF**	156	–	–	–	–	–	284	266	3	3	21.7
NU328EM	**NU**	**NJ**	**NUP**	–	–	156	156	176	182	198	284	–	–	3	3	22.8
NU2328EM	**NU**	**NJ**	**NUP**	–	–	156	156	176	182	198	284	–	–	3	3	37.7
NU 428	**NU**	**NJ**	–	**N**	–	160	160	193	200	222	340	340	308	4	4	46.4
NU1030	**NU**	**NJ**	–	**N**	**NF**	161	158	167	173	–	214	217	208	2	1.5	4.77
N 230	–	–	–	**N**	**NF**	163	–	–	–	–	–	257	242	2.5	2.5	10.4
NU230EM	**NU**	**NJ**	**NUP**	–	–	163	163	177	184	196	257	–	–	2.5	2.5	11.9
NU2230EM	**NU**	**NJ**	**NUP**	–	–	163	163	177	184	196	257	–	–	2.5	2.5	19.3
N 330	–	–	–	**N**	**NF**	166	–	–	–	–	–	304	283	3	3	25.8
NU330EM	**NU**	**NJ**	**NUP**	–	–	166	166	188	195	213	304	–	–	3	3	27.1
NU2330EM	**NU**	**NJ**	**NUP**	–	–	166	166	188	195	213	304	–	–	3	3	45.1
NU 430	**NU**	**NJ**	–	–	–	170	170	208	216	237	360	–	–	4	4	55.8
NU1032	**NU**	**NJ**	–	**N**	**NF**	171	168	178	184	–	229	232	222	2	1.5	5.81
N 232	–	–	–	**N**	**NF**	173	–	–	–	–	–	277	261	2.5	2.5	14.1
NU232EM	**NU**	**NJ**	**NUP**	–	–	173	173	190	197	210	277	–	–	2.5	2.5	14.7
NU2232EM	**NU**	**NJ**	**NUP**	–	–	173	173	188	197	210	277	–	–	2.5	2.5	24.5
N 332	–	–	–	**N**	–	176	–	–	–	–	–	324	298	3	3	30.8
NU332EM	**NU**	**NJ**	**NUP**	–	–	176	176	199	211	228	324	–	–	3	3	32.1
NU2332EM	**NU**	**NJ**	**NUP**	–	–	176	176	199	211	228	324	–	–	3	3	53.9

Notlar (1) Yukarıda listelenmiş limit hızları, işlenmiş kafesli rulmanlar için geçerlidir (Sonek yok). Sıkıştırılmış kafesli rulmanlar için, limit hızını %20 oranında azaltınız. (EM, EW veya ET sonekli rulman numaraları için geçerli değildir.)

(2) ET sonekli rulmanlarda polyamid kafes vardır. Maksimum çalışma sıcaklığı 120 °C'den daha az olmalıdır.

Notlar (3) L-şeklindeki fatura bilezikleri (Sayfa **B104**'den başlayan L-Şeklindeki Fatura Bilezikleri bölümüne bakınız) kullanıldığında, rulmanlar NH tipi olur.

(4) Eksenel yükler uygulanırsa, yukarıda listelenmiş değerlerden d_a'yı artırınız ve D_a'yı azaltınız.

(5) d_b (maksimum), NU, NJ Tiplerinin ayar bileziklerinin değerleridir.

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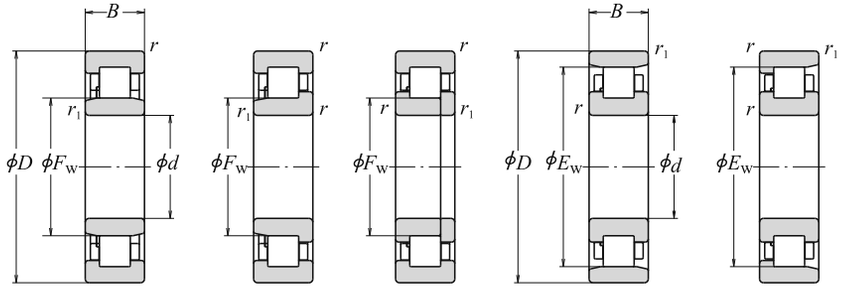
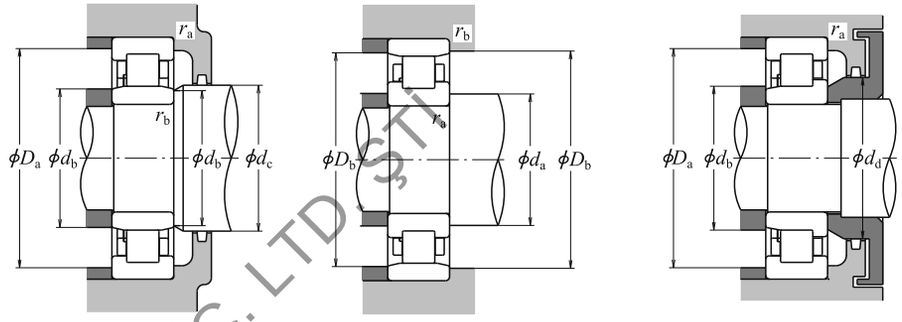
Delik Çapı 170 — 220 mm



NU NJ NUP N NF



d	D	B	r min.	r1 min.	FW	EW	Cr	C0r	Gres	Yağ	Rulman Numaraları NU	NJ (1)	NUP	N	NF	da (2) min.	db min.	db (3) maks.	dc min.	dd min.	Da (2) maks.	Db maks.	Db min.	ra maks.	rb maks.	Kütle (kg) yaklaşık
170	260	42	2.1	2.1	193	237	287 000	415 000	2 400	2 800	**NU1034**	**NU**	**NJ**	–	**N**	–	181	181	190	197	–	249	249	239	2	2	7.91
	310	52	4	4	–	272	475 000	635 000	2 000	2 400	**N 234**	–	–	–	**N**	**NF**	186	–	–	–	–	–	294	278	3	3	17.4
	310	52	4	4	207	–	605 000	800 000	2 000	2 400	**NU234EM**	**NU**	**NJ**	**NUP**	–	–	186	186	202	211	223	294	–	–	3	3	18.3
	310	86	4	4	205	–	925 000	1 330 000	1 800	2 200	**NU2234EM**	**NU**	**NJ**	**NUP**	–	–	186	186	200	211	223	294	–	–	3	3	29.9
	360	72	4	4	–	310	795 000	1 010 000	1 600	2 000	**N 334**	–	–	–	**N**	–	186	–	–	–	–	–	344	316	3	3	36.6
	360	72	4	4	218	–	930 000	1 150 000	1 600	2 000	**NU334EM**	**NU**	**NJ**	**NUP**	–	–	186	186	213	223	241	344	–	–	3	3	37.9
	360	120	4	4	216	–	1 490 000	2 070 000	1 400	1 800	**NU2334EM**	**NU**	**NJ**	**NUP**	–	–	186	186	210	223	241	344	–	–	3	3	63.4
180	280	46	2.1	2.1	205	255	355 000	510 000	2 200	2 600	**NU1036**	**NU**	**NJ**	–	**N**	**NF**	191	191	202	209	–	269	269	258	2	2	10.2
	320	52	4	4	–	282	495 000	675 000	1 900	2 200	**N 236**	–	–	–	**N**	**NF**	196	–	–	–	–	–	304	288	3	3	18.1
	320	52	4	4	217	–	625 000	850 000	1 900	2 200	**NU236EM**	**NU**	**NJ**	**NUP**	–	–	196	196	212	221	233	304	–	–	3	3	19
	320	86	4	4	215	–	1 010 000	1 510 000	1 700	2 000	**NU2236EM**	**NU**	**NJ**	**NUP**	–	–	196	196	210	221	233	304	–	–	3	3	31.4
	380	75	4	4	–	328	905 000	1 150 000	1 500	1 800	**N 336**	–	–	–	**N**	**NF**	196	–	–	–	–	–	364	335	3	3	42.6
	380	75	4	4	231	–	985 000	1 230 000	1 500	1 800	**NU336EM**	**NU**	**NJ**	**NUP**	–	–	196	196	226	235	255	364	–	–	3	3	44
	380	126	4	4	227	–	1 560 000	2 220 000	1 300	1 700	**NU2336EM**	**NU**	**NJ**	**NUP**	–	–	196	196	222	235	255	364	–	–	3	3	74.6
190	290	46	2.1	2.1	215	265	365 000	535 000	2 000	2 600	**NU1038**	**NU**	**NJ**	–	**N**	–	201	201	212	219	–	279	279	268	2	2	10.7
	340	55	4	4	–	299	555 000	770 000	1 800	2 200	**N 238**	–	–	–	**N**	**NF**	206	–	–	–	–	–	324	305	3	3	22
	340	55	4	4	230	–	695 000	955 000	1 800	2 200	**NU238EM**	**NU**	**NJ**	**NUP**	–	–	206	206	225	234	247	324	–	–	3	3	23
	340	92	4	4	228	–	1 100 000	1 670 000	1 600	2 000	**NU2238EM**	**NU**	**NJ**	**NUP**	–	–	206	206	223	234	247	324	–	–	3	3	38.3
	400	78	5	5	–	345	975 000	1 260 000	1 400	1 700	**N 338**	–	–	–	**N**	–	210	–	–	–	–	–	380	352	4	4	48.7
	400	78	5	5	245	–	1 060 000	1 340 000	1 400	1 700	**NU338EM**	**NU**	**NJ**	**NUP**	–	–	210	210	240	248	268	380	–	–	4	4	50.6
	400	132	5	5	240	–	1 770 000	2 520 000	1 300	1 600	**NU2338EM**	**NU**	**NJ**	**NUP**	–	–	210	210	235	248	268	380	–	–	4	4	86.2
200	310	51	2.1	2.1	229	281	390 000	580 000	2 000	2 400	**NU1040**	**NU**	**NJ**	–	**N**	**NF**	**211**	211	226	233	–	299	299	284	2	2	14
	360	58	4	4	–	316	620 000	865 000	1 700	2 000	**N 240**	–	–	–	**N**	**NF**	**216**	–	–	–	–	–	344	323	3	3	26.2
	360	58	4	4	243	–	765 000	1 060 000	1 700	2 000	**NU240EM**	**NU**	**NJ**	**NUP**	–	–	216	216	238	247	261	344	–	–	3	3	27.4
	360	98	4	4	241	–	1 220 000	1 870 000	1 500	1 800	**NU2240EM**	**NU**	**NJ**	**NUP**	–	–	216	216	235	247	261	344	–	–	3	3	46.1
	420	80	5	5	–	360	975 000	1 270 000	1 300	1 600	**N 340**	–	–	–	**N**	**NF**	220	–	–	–	–	–	400	367	4	4	55.3
	420	80	5	5	258	–	1 140 000	1 450 000	1 300	1 600	**NU340EM**	**NU**	**NJ**	**NUP**	–	–	220	220	252	263	283	400	–	–	4	4	57.1
	420	138	5	5	253	–	1 910 000	2 760 000	1 200	1 500	**NU2340EM**	**NU**	**NJ**	**NUP**	–	–	220	220	247	263	283	400	–	–	4	4	99.3
220	340	56	3	3	250	310	500 000	750 000	1 800	2 200	**NU1044**	**NU**	**NJ**	–	**N**	–	233	233	247	254	–	327	327	313	2.5	2.5	18.2
	400	65	4	4	–	350	760 000	1 080 000	1 500	1 800	**N 244**	–	–	–	**N**	**NF**	236	–	–	–	–	–	384	357	3	3	37
	400	65	4	4	270	–	760 000	1 080 000	1 500	1 800	**NU 244**	**NU**	**NJ**	**NUP**	–	–	236	236	264	273	289	384	–	–	3	3	37.3
	400	108	4	4	270	–	1 140 000	1 810 000	1 300	1 600	**NU2244**	**NU**	–	–	–	–	–	236	264	273	289	384	–	–	3	3	61.8
	460	88	5	5	–	396	1 190 000	1 570 000	1 200	1 500	**N 344**	–	–	–	**N**	–	240	–	–	–	–	–	440	403	4	4	72.8
	460	88	5	5	284	–	1 190 000	1 570 000	1 200	1 500	**NU 344**	**NU**	**NJ**	–	–	–	240	240	278	287	307	440	–	–	4	4	74.6

Notlar (1) L-şeklindeki fatura bilezikleri (Sayfa **B105**'e bakın) kullanıldığında, rulmanlar NH Tipi olur.
(2) Eksenel yükler uygulanırsa, yukarıda listelenmiş değerlerden d_a'yı artırınız ve D_a'yı azaltınız.
(3) d_b (maksimum), NU, NJ Tiplerinin ayar bileziklerinin değerleridir.

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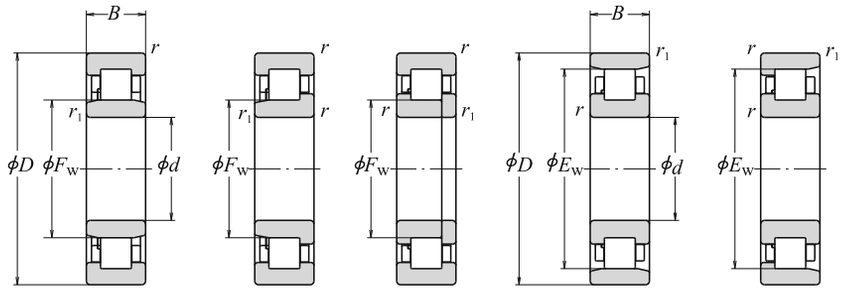
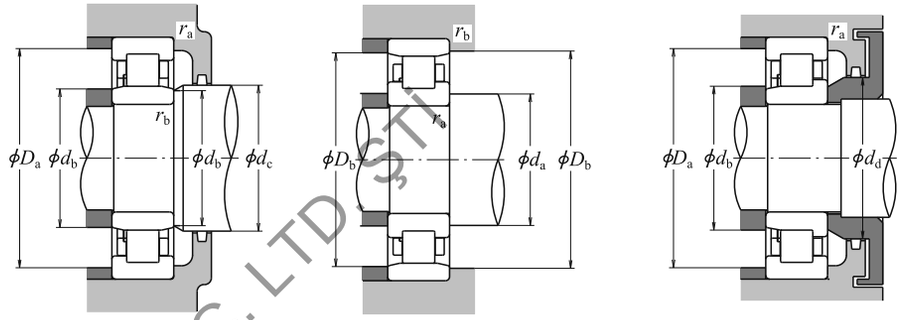
Delik Çapı 240 — 500 mm





d	D	B	r min.	r1 min.	FW	EW	Cr	C0r	Gres	Yağ
	Temel Ölçüler (mm)						Temel Yük Değerleri (N)		Limit Hızlar (dak⁻¹)	
240	360	56	3	3	270	330	530 000	820 000	1 600	2 000
	440	72	4	4	—	385	935 000	1 340 000	1 300	1 600
	440	72	4	4	295	—	935 000	1 340 000	1 300	1 600
	440	120	4	4	295	—	1 440 000	2 320 000	1 200	1 500
	500	95	5	5	—	430	1 360 000	1 820 000	1 100	1 300
	500	95	5	5	310	—	1 360 000	1 820 000	1 100	1 300
260	400	65	4	4	296	364	645 000	1 000 000	1 500	1 800
	480	80	5	5	—	420	1 100 000	1 580 000	1 200	1 500
	480	80	5	5	320	—	1 100 000	1 580 000	1 200	1 500
	480	130	5	5	320	—	1 710 000	2 770 000	1 100	1 300
	540	102	6	6	336	—	1 540 000	2 090 000	1 000	1 200
280	420	65	4	4	316	384	660 000	1 050 000	1 400	1 700
	500	80	5	5	—	440	1 140 000	1 680 000	1 100	1 400
	500	80	5	5	340	—	1 140 000	1 680 000	1 100	1 400
300	460	74	4	4	340	420	885 000	1 400 000	1 300	1 500
	540	85	5	5	364	—	1 400 000	2 070 000	1 100	1 300
320	480	74	4	4	360	440	905 000	1 470 000	1 200	1 400
	580	92	5	5	—	510	1 540 000	2 270 000	950	1 200
	580	92	5	5	390	—	1 540 000	2 270 000	950	1 200
340	520	82	5	5	385	475	1 080 000	1 740 000	1 100	1 300
360	540	82	5	5	405	495	1 110 000	1 830 000	1 000	1 300
380	560	82	5	5	425	—	1 140 000	1 910 000	1 000	1 200
400	600	90	5	5	450	550	1 360 000	2 280 000	900	1 100
420	620	90	5	5	470	570	1 390 000	2 380 000	850	1 100
440	650	94	6	6	493	—	1 470 000	2 530 000	800	1 000
460	680	100	6	6	516	624	1 580 000	2 740 000	750	950
480	700	100	6	6	536	644	1 620 000	2 860 000	750	900
500	720	100	6	6	556	664	1 660 000	2 970 000	710	850

Rulman Numaraları	NU	NJ (1)	NUP	N	NF	da(2) min.	db min.	db(3) maks.	dc min.	dd min.	Da(2) maks.	Db maks.	Db min.	ra maks.	rb maks.	Kütle (kg) yaklaşık
	Rulman Numaraları					Dayanak ve Dolgu Ölçüleri (mm)										Kütle (kg)
NU1048	**NU**	**NJ**	—	**N**	—	253	253	266	275	—	347	347	333	2.5	2.5	19.5
N 248	—	—	—	**N**	**NF**	256	—	—	—	—	—	424	392	3	3	49.6
NU 248	**NU**	**NJ**	**NUP**	—	—	256	256	289	298	316	424	—	—	3	3	50.4
NU2248	**NU**	—	—	—	—	—	256	289	298	316	424	—	—	3	3	84.9
N 348	—	—	—	**N**	—	260	—	—	—	—	—	480	438	4	4	92.3
NU 348	**NU**	**NJ**	—	—	—	260	260	304	313	333	480	—	—	4	4	94.6
NU1052	**NU**	**NJ**	—	**N**	**NF**	276	276	292	300	—	384	384	367	3	3	29.1
N 252	—	—	—	**N**	—	280	—	—	—	—	—	460	428	4	4	66.2
NU 252	**NU**	**NJ**	—	—	—	280	280	314	323	343	460	—	—	4	4	67.1
NU2252	**NU**	—	**NUP**	—	—	280	280	314	323	343	460	—	—	4	4	111
NU 352	**NU**	**NJ**	—	—	—	286	286	330	339	359	514	—	—	5	5	118
NU1056	**NU**	**NJ**	**NUP**	**N**	**NF**	296	296	312	320	—	404	404	387	3	3	30.8
N 256	—	—	—	**N**	**NF**	300	—	—	—	—	—	480	448	4	4	69.6
NU 256	**NU**	**NJ**	—	—	—	300	300	334	344	364	480	—	—	4	4	70.7
NU1060	**NU**	**NJ**	—	**N**	**NF**	316	316	336	344	—	444	444	424	3	3	43.7
NU 260	**NU**	**NJ**	—	—	—	320	320	358	368	391	520	—	—	4	4	89.2
NU1064	**NU**	—	—	**N**	**NF**	336	336	356	365	—	464	464	444	3	3	46.1
N 264	—	—	—	**N**	—	340	—	—	—	—	—	560	519	4	4	110
NU 264	**NU**	**NJ**	—	—	—	340	340	384	394	420	560	—	—	4	4	112
NU1068	**NU**	**NJ**	—	**N**	**NF**	360	360	381	390	—	500	500	479	4	4	61.8
NU1072	**NU**	—	—	**N**	**NF**	380	380	400	410	—	520	520	499	4	4	64.6
NU1076	**NU**	—	—	—	—	—	400	420	430	—	540	—	—	4	4	67.5
NU1080	**NU**	—	**NUP**	**N**	—	420	420	445	455	—	580	580	554.5	4	4	88.2
NU1084	**NU**	—	—	**N**	—	440	440	465	475	—	600	600	574.5	4	4	91.7
NU1088	**NU**	—	—	—	—	—	466	488	498	—	624	—	—	5	5	105
NU1092	**NU**	—	**NUP**	**N**	—	486	486	511	521	—	654	654	628.5	5	5	123
NU1096	**NU**	**NJ**	—	**N**	—	506	506	531	541	—	674	674	654	5	5	127
NU10/500	**NU**	—	—	**N**	—	526	526	551	558	—	694	694	674	5	5	131

Notlar (1) L-şeklindeki fatura bilezikleri (Sayfa **B105**'e bakın) kullanıldığında, rulmanlar NH Tipi olur.
(2) Eksenel yükler uygulanırsa, yukarıda listelenmiş değerlerden d_a'yı artırınız ve D_a'yı azaltınız.
(3) d_b (maksimum), NU, NJ Tiplerinin ayar bileziklerinin değerleridir.

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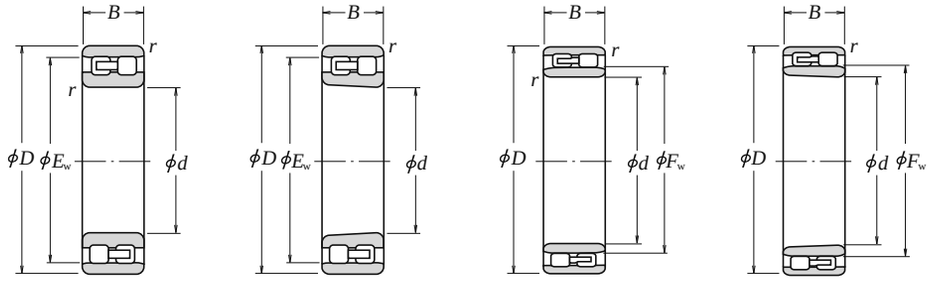
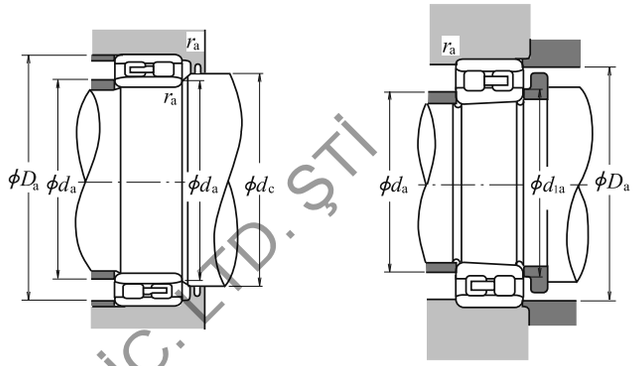
Delik Çapı 25 — 140 mm



NN Silindirik Delik | NN Konik Delik | NNU Silindirik Delik | NNU Konik Delik



Temel Ölçüler (mm)						Temel Yük Değerleri (N)		Limit Hızlar (dak⁻¹)	
d	D	B	r min.	F_W	E_W	C_r	C_{0r}	Gres	Yağ
25	47	16	0.6	—	41.3	25 800	30 000	14 000	17 000
30	55	19	1	—	48.5	31 000	37 000	12 000	14 000
35	62	20	1	—	55	39 500	50 000	10 000	12 000
40	68	21	1	—	61	43 500	55 500	9 000	11 000
45	75	23	1	—	67.5	52 000	68 500	8 500	10 000
50	80	23	1	—	72.5	53 000	72 500	7 500	9 000
55	90	26	1.1	—	81	69 500	96 500	6 700	8 000
60	95	26	1.1	—	86.1	73 500	106 000	6 300	7 500
65	100	26	1.1	—	91	77 000	116 000	6 000	7 100
70	110	30	1.1	—	100	97 500	148 000	5 600	6 700
75	115	30	1.1	—	105	96 500	149 000	5 300	6 300
80	125	34	1.1	—	113	119 000	186 000	4 800	6 000
85	130	34	1.1	—	118	125 000	201 000	4 500	5 600
90	140	37	1.5	—	127	143 000	228 000	4 300	5 000
95	145	37	1.5	—	132	150 000	246 000	4 000	5 000
100	140	40	1.1	112	—	155 000	295 000	4 000	5 000
	150	37	1.5	—	137	157 000	265 000	4 000	4 800
105	145	40	1.1	117	—	161 000	315 000	3 800	4 800
	160	41	2	—	146	198 000	320 000	3 800	4 500
110	150	40	1.1	122	—	167 000	335 000	3 600	4 500
	170	45	2	—	155	229 000	375 000	3 400	4 300
120	165	45	1.1	133.5	—	183 000	360 000	3 200	4 000
	180	46	2	—	165	239 000	405 000	3 200	3 800
130	180	50	1.5	144	—	274 000	545 000	3 000	3 800
	200	52	2	—	182	284 000	475 000	3 000	3 600
140	190	50	1.5	154	—	283 000	585 000	2 800	3 600
	210	53	2	—	192	298 000	515 000	2 800	3 400

Rulman Numaraları		Dayanak ve Dolgu Ölçüleri (mm)							Kütle (kg)
Silindirik Delik	Konik Delik(1)	d_a(2) min.	d_a(2) maks.	d_{1a} min.	d_c min.	D_a maks.	D_a min.	r_a maks.	yaklaşık
NN 3005	**NN 3005 K**	29	—	29	—	43	42	0.6	0.127
NN 3006	**NN 3006 K**	35	—	36	—	50	50	1	0.198
NN 3007	**NN 3007 K**	40	—	41	—	57	56	1	0.258
NN 3008	**NN 3008 K**	45	—	46	—	63	62	1	0.309
NN 3009	**NN 3009 K**	50	—	51	—	70	69	1	0.407
NN 3010	**NN 3010 K**	55	—	56	—	75	74	1	0.436
NN 3011	**NN 3011 K**	61.5	—	62	—	83.5	83	1	0.647
NN 3012	**NN 3012 K**	66.5	—	67	—	88.5	88	1	0.693
NN 3013	**NN 3013 K**	71.5	—	72	—	93.5	93	1	0.741
NN 3014	**NN 3014 K**	76.5	—	77	—	103.5	102	1	1.06
NN 3015	**NN 3015 K**	81.5	—	82	—	108.5	107	1	1.11
NN 3016	**NN 3016 K**	86.5	—	87	—	118.5	115	1	1.54
NN 3017	**NN 3017 K**	91.5	—	92	—	123.5	120	1	1.63
NN 3018	**NN 3018 K**	98	—	99	—	132	129	1.5	2.09
NN 3019	**NN 3019 K**	103	—	104	—	137	134	1.5	2.19
NNU 4920	**NNU 4920 K**	106.5	111	108	115	133.5	—	1	1.9
NN 3020	**NN 3020 K**	108	—	109	—	142	139	1.5	2.28
NNU 4921	**NNU 4921 K**	111.5	116	113	120	138.5	—	1	1.99
NN 3021	**NN 3021 K**	114	—	115	—	151	148	2	2.88
NNU 4922	**NNU 4922 K**	116.5	121	118	125	143.5	—	1	2.07
NN 3022	**NN 3022 K**	119	—	121	—	161	157	2	3.71
NNU 4924	**NNU 4924 K**	126.5	133	128	137	158.5	—	1	2.85
NN 3024	**NN 3024 K**	129	—	131	—	171	167	2	4.04
NNU 4926	**NNU 4926 K**	138	143	140	148	172	—	1.5	3.85
NN 3026	**NN 3026 K**	139	—	141	—	191	185	2	5.88
NNU 4928	**NNU 4928 K**	148	153	150	158	182	—	1.5	4.08
NN 3028	**NN 3028 K**	149	—	151	—	201	195	2	6.34

Not (1) K soneki, konik delikli (konik 1 : 12) rulmanları temsil eder.

Notlar Çift sıralı silindirik makaralı rulmanların üretimi genellikle yüksek hassasiyet sınıflarındadır (Sınıf 5 veya daha iyi).

Not (2) d_a (maksimum), NNU Tipinin ayar bileziklerinin değerleridir.

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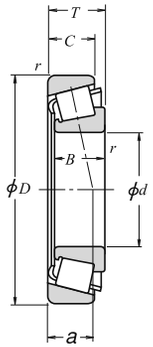
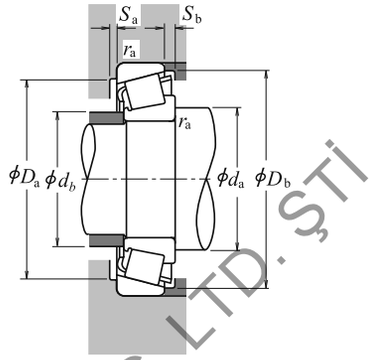
Delik Çapı 15 — 28 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)							Temel Yük Değerleri (N)		Temel Yük Değerleri {kgf}		Limit Hızları (dak⁻¹)	
d	D	T	B	C	Koni Zarf r min.		C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ
15	35	11.75	11	10	0.6	0.6	14 800	13 200	1 510	1 350	11 000	15 000
	42	14.25	13	11	1	1	23 600	21 100	2 400	2 160	9 500	13 000
17	40	13.25	12	11	1	1	20 100	19 900	2 050	2 030	9 500	13 000
	40	17.25	16	14	1	1	27 100	28 000	2 770	2 860	9 500	13 000
	47	15.25	14	12	1	1	29 200	26 700	2 980	2 720	8 500	12 000
	47	15.25	14	10.5	1	1	22 000	20 300	2 240	2 070	8 000	11 000
	47	20.25	19	16	1	1	37 500	36 500	3 800	3 750	8 500	11 000
20	42	15	15	12	0.6	0.6	24 600	27 400	2 510	2 800	9 000	12 000
	47	15.25	14	12	1	1	27 900	28 500	2 850	2 900	8 000	11 000
	47	15.25	14	12	0.3	1	23 900	24 000	2 430	2 450	8 000	11 000
	47	19.25	18	15	1	1	35 500	37 500	3 650	3 850	8 500	11 000
	47	19.25	18	15	1	1	31 500	33 500	3 200	3 400	8 000	11 000
	52	16.25	15	13	1.5	1.5	35 000	33 500	3 550	3 400	7 500	10 000
	52	16.25	15	12	1.5	1.5	25 300	24 500	2 580	2 490	7 100	10 000
	52	22.25	21	18	1.5	1.5	45 500	47 500	4 650	4 850	8 000	11 000
22	44	15	15	11.5	0.6	0.6	25 600	29 400	2 610	3 000	8 500	11 000
	50	15.25	14	12	1	1	29 200	30 500	2 980	3 150	7 500	10 000
	50	15.25	14	12	1	1	27 200	29 500	2 780	3 000	7 500	10 000
	50	19.25	18	15	1	1	36 500	40 500	3 750	4 100	7 500	11 000
	50	19.25	18	15	1	1	33 500	39 500	3 400	4 000	7 500	10 000
	56	17.25	16	14	1.5	1.5	37 000	36 500	3 750	3 750	7 100	9 500
	56	17.25	16	13	1.5	1.5	34 500	34 000	3 500	3 500	6 700	9 500
25	47	15	15	11.5	0.6	0.6	27 400	33 000	2 800	3 400	8 000	11 000
	47	17	17	14	0.6	0.6	31 000	38 000	3 150	3 900	8 000	11 000
	52	16.25	15	13	1	1	32 000	35 000	3 300	3 550	7 100	10 000
	52	16.25	15	12	1	1	28 100	31 500	2 860	3 200	9 700	9 500
	52	19.25	18	16	1	1	40 000	45 000	4 050	4 600	7 100	10 000
	52	19.25	18	15	1	1	35 000	42 000	3 550	4 250	7 100	9 500
	52	22	22	18	1	1	47 500	56 500	4 850	5 750	7 500	10 000
	62	18.25	17	15	1.5	1.5	47 500	46 000	4 850	4 700	6 300	8 500
	62	18.25	17	14	1.5	1.5	42 000	45 000	4 300	4 550	6 000	8 500
	62	18.25	17	13	1.5	1.5	38 000	40 500	3 900	4 100	5 600	8 000
	62	18.25	17	13	1.5	1.5	38 000	40 500	3 900	4 100	5 600	8 000
	62	25.25	24	20	1.5	1.5	62 500	66 000	6 400	6 750	6 300	8 500
28	52	16	16	12	1	1	32 000	39 000	3 300	3 950	7 100	9 500
	58	17.25	16	14	1	1	39 500	41 500	4 050	4 200	6 300	9 000
	58	17.25	16	12	1	1	34 000	38 500	3 450	3 900	6 300	8 500
	58	20.25	19	16	1	1	47 500	54 000	4 850	5 500	6 300	9 000
	58	20.25	19	16	1	1	42 000	49 500	4 300	5 050	6 300	9 000
	68	19.75	18	15	1.5	1.5	55 000	55 500	5 650	5 650	6 000	8 000
	68	19.75	18	14	1.5	1.5	49 500	50 500	5 000	5 150	5 600	7 500

Rulman Numaraları	ISO355 Ebat Serisi	Dayanak ve Dolgu Ölçüleri (mm)									Etkili Yük Merkezleri (mm)	Sabit	Eksenel Yük Faktörleri		Kütle (kg)
		d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni Zarf r_a maks.		a	e	Y_1	Y_0	yaklaşık
30202	—	23	19	30	30	33	2	1.5	0.6	0.6	8.2	0.32	1.9	1.0	0.053
HR 30302 J	2FB	24	22	36	36	38.5	2	3	1	1	9.5	0.29	2.1	1.2	0.098
HR 30203 J	2DB	26	23	34	34	37.5	2	2	1	1	9.7	0.35	1.7	0.96	0.079
HR 32203 J	2DD	26	22	34	34	37	2	3	1	1	11.2	0.31	1.9	1.1	0.103
HR 30303 J	2FB	26	24	41	40	43	2	3	1	1	10.4	0.29	2.1	1.2	0.134
30303 D	—	29	23	41	34	44	2	4.5	1	1	15.4	0.81	0.74	0.41	0.129
HR 32303 J	2FD	28	23	41	39	43	2	4	1	1	12.5	0.29	2.1	1.2	0.178
HR 32004 XJ	3CC	28	24	37	35	40	3	3	0.6	0.6	10.6	0.37	1.6	0.88	0.097
HR 30204 J	2DB	29	27	41	40	44	2	3	1	1	11.0	0.35	1.7	0.96	0.127
HR 30204 C-A-	—	29	26	41	37	44	2	3	0.3	1	13.0	0.55	1.1	0.60	0.126
HR 32204 J	2DD	29	25	41	38	44.5	3	4	1	1	12.6	0.33	1.8	1.0	0.161
HR 32204 CJ	5DD	29	25	41	36	44	2	4	1	1	14.5	0.52	1.2	0.64	0.166
HR 30304 J	2FB	31	27	44	44	47.5	2	3	1.5	1.5	11.6	0.30	2.0	1.1	0.172
30304 D	—	34	26	43	37	49	2	4	1.5	1.5	16.7	0.81	0.74	0.41	0.168
HR 32304 J	2FD	33	26	43	42	48	3	4	1.5	1.5	13.9	0.30	2.0	1.1	0.241
HR 320/22 XJ	3CC	30	27	39	37	42	3	3.5	0.6	0.6	11.1	0.40	1.5	0.83	0.103
HR 302/22	—	31	29	44	42	47	2	3	1	1	11.6	0.37	1.6	0.90	0.139
HR 302/22 C	—	31	29	44	40	47	2	3	1	1	13.0	0.49	1.2	0.67	0.144
HR 322/22	—	31	28	44	41	47	2	4	1	1	13.5	0.37	1.6	0.89	0.18
HR 322/22 C	—	31	29	44	39	48	2	4	1	1	15.2	0.51	1.2	0.65	0.185
HR 303/22	—	33	30	47	46	50	2	3	1.5	1.5	12.4	0.32	1.9	1.0	0.208
HR 303/22 C	—	33	30	47	44	52.5	3	4	1.5	1.5	15.9	0.59	1.0	0.56	0.207
HR 32005 XJ	4CC	33	30	42	40	45	3	3.5	0.6	0.6	11.8	0.43	1.4	0.77	0.116
HR 33005 J	2CE	33	29	42	41	44	3	3	0.6	0.6	11.0	0.29	2.1	1.1	0.131
HR 30205 J	3CC	34	31	46	44	48.5	2	3	1	1	12.7	0.37	1.6	0.88	0.157
HR 30205 C	—	34	32	46	43	49.5	2	4	1	1	14.4	0.53	1.1	0.62	0.155
HR 32205 J	2CD	34	30	46	44	50	2	3	1	1	13.5	0.36	1.7	0.92	0.189
HR 32205 C	—	34	30	46	40	50	2	4	1	1	15.8	0.53	1.1	0.62	0.19
HR 33205 J	2DE	34	29	46	43	49.5	4	4	1	1	14.1	0.35	1.7	0.94	0.221
HR 30305 J	2FB	36	34	54	54	57	2	3	1.5	1.5	13.2	0.30	2.0	1.1	0.27
HR 30305 C	—	36	35	53	49	58.5	3	4	1.5	1.5	16.4	0.55	1.1	0.60	0.276
HR 30305 DJ	(7FB)	39	34	53	47	59	2	5	1.5	1.5	19.9	0.83	0.73	0.40	0.265
HR 31305 J	7FB	39	33	53	47	59	3	5	1.5	1.5	19.9	0.83	0.73	0.40	0.265
HR 32305 J	2FD	38	32	53	51	57	3	5	1.5	1.5	15.6	0.30	2.0	1.1	0.376
HR 320/28 XJ	4CC	37	33	46	44	50	3	4	1	1	12.8	0.43	1.4	0.77	0.146
HR 302/28	—	37	34	52	50	55	2	3	1	1	13.2	0.35	1.7	0.93	0.203
HR 302/28 C	—	37	34	52	48	54	2	5	1	1	16.9	0.64	0.94	0.52	0.198
HR 322/28	—	37	34	52	49	55	2	4	1	1	14.6	0.37	1.6	0.89	0.243
HR 322/28 CJ	5DD	37	33	52	45	55	2	4	1	1	16.8	0.56	1.1	0.59	0.251
HR 303/28	—	39	37	59	58	61	2	4.5	1.5	1.5	14.5	0.31	1.9	1.1	0.341
HR 303/28 C	—	39	38	59	57	63	3	5.5	1.5	1.5	17.4	0.52	1.2	0.64	0.335

Notlar C soneki, orta açılı konik makaralı rulmanları temsil eder. Bunlar son derece özel uygulamalar için tasarlanmış olduğundan lütfen C sonekine sahip rulmanları kullanmadan önce NSK'ya danışınız.

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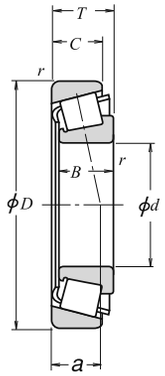
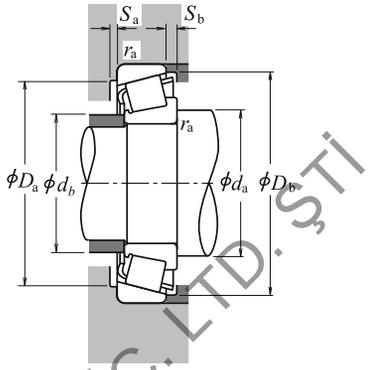
Delik Çapı 30 — 35 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})	
d	D	T	B	C	Koni Zarf r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ
30	47	12	12	9	0.3	0.3	17 600	24 400	1 800	2 490	7 500	10 000
	55	17	17	13	1	1	36 000	44 500	3 700	4 550	6 700	9 000
	55	20	20	16	1	1	42 000	54 000	4 250	5 500	6 700	9 000
	62	17.25	16	14	1	1	43 000	47 500	4 400	4 850	6 000	8 000
	62	17.25	16	12	1	1	35 500	37 000	3 650	3 800	5 600	7 500
	62	21.25	20	17	1	1	52 000	60 000	5 300	6 150	6 000	8 500
	62	21.25	20	16	1	1	48 000	56 000	4 900	5 750	6 000	8 000
	62	25	25	19.5	1	1	66 500	79 500	6 800	8 100	6 000	8 000
	72	20.75	19	16	1.5	1.5	59 500	60 000	6 050	6 100	5 300	7 500
	72	20.75	19	14	1.5	1.5	56 500	55 500	5 800	5 650	5 300	7 100
	72	20.75	19	14	1.5	1.5	49 000	52 500	5 000	5 350	4 800	6 700
	72	20.75	19	14	1.5	1.5	49 000	52 500	5 000	5 350	4 800	6 800
	72	28.75	27	23	1.5	1.5	80 000	88 500	8 150	9 000	5 600	7 500
	72	28.75	27	23	1.5	1.5	76 000	86 500	7 750	8 800	5 600	7 500
32	58	17	17	13	1	1	37 500	47 000	3 800	4 800	6 300	8 500
	58	21	20	16	1	1	41 000	50 000	4 150	5 100	6 300	8 500
	65	18.25	17	15	1	1	48 500	54 000	4 950	5 500	5 600	8 000
	65	18.25	17	14	1	1	45 500	52 500	4 650	5 350	5 600	7 500
	65	22.25	21	18	1	1	56 000	65 000	5 700	6 650	6 000	8 000
	65	22.25	21	17	1	1	49 500	60 000	5 050	6 100	5 600	7 500
	65	26	26	20.5	1	1	70 000	86 500	7 150	8 850	5 600	8 000
	75	21.75	20	17	1.5	1.5	56 000	56 000	5 700	5 700	5 300	7 100
35	55	14	14	11.5	0.6	0.6	27 400	39 000	2 790	3 950	6 300	8 500
	62	18	18	14	1	1	43 500	55 500	4 400	5 650	5 600	8 000
	62	21	21	17	1	1	49 000	65 000	4 950	6 650	5 600	8 000
	72	18.25	17	15	1.5	1.5	54 000	59 500	5 500	6 050	5 300	7 100
	72	18.25	17	13	1.5	1.5	47 000	54 500	4 750	5 550	5 000	6 700
	72	24.25	23	19	1.5	1.5	70 500	83 500	7 150	8 550	5 300	7 100
	72	24.25	23	18	1.5	1.5	60 500	71 500	6 200	7 300	5 000	7 100
	72	28	28	22	1.5	1.5	86 500	108 000	8 850	11 100	5 300	7 100
	80	22.75	21	18	2	1.5	76 000	79 000	7 750	8 050	4 800	6 700
	80	22.75	21	16	2	1.5	68 000	70 500	6 900	7 200	4 800	6 300
	80	22.75	21	15	2	1.5	62 000	68 000	6 350	6 950	4 300	6 000
	80	22.75	21	15	2	1.5	62 000	68 000	6 350	6 950	4 300	6 000
	80	32.75	31	25	2	1.5	99 000	111 000	10 100	11 300	5 000	6 700

Notlar C soneki, orta açılı konik makaralı rulmanları temsil eder. Bunlar son derece özel uygulamalar için tasarlanmış olduğundan lütfen C sonekine sahip rulmanları kullanmadan önce NSK'ya danışınız.

Rulman Numaraları	ISO355 Ebat Serisi yaklaşık	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni Zarf r_a maks.		Etkili Yük Merkezleri (mm) a	Sabit e	Eksenel Yük Faktörleri Y_1	Y_0	Kütle (kg) yaklaşık
HR 32906 J	2BD	34	34	44	42	44	3	3	0.3	0.3	9.2	0.32	1.9	1.0	0.074
HR 32006 XJ	4CC	39	35	49	47	53	3	4	1	1	13.5	0.43	1.4	0.77	0.172
HR 33006 J	2CE	39	35	49	48	52	3	4	1	1	13.1	0.29	2.1	1.1	0.208
HR 30206 J	3DB	39	37	56	52	58	2	3	1	1	13.9	0.37	1.6	0.88	0.238
HR 30206 C	—	39	36	56	49	59	2	5	1	1	17.8	0.68	0.88	0.49	0.221
HR 32206 J	3DC	39	36	56	51	58.5	2	4	1	1	15.4	0.37	1.6	0.88	0.297
HR 32206 C	—	39	35	56	48	59	2	5	1	1	17.8	0.55	1.1	0.60	0.293
HR 33206 J	2DE	39	35	56	52	59.5	5	5.5	1	1	16.1	0.34	1.8	0.97	0.355
HR 30306 J	2FB	41	40	63	62	66	3	4.5	1.5	1.5	15.1	0.32	1.9	1.1	0.403
HR 30306 C	—	41	38	63	59	67	3	6.5	1.5	1.5	18.5	0.55	1.1	0.60	0.383
HR 30306 DJ	(7FB)	44	40	63	55	68	3	6.5	1.5	1.5	23.1	0.83	0.73	0.40	0.393
HR 31306 J	7FB	44	40	63	55	68	3	6.5	1.5	1.5	23.1	0.83	0.73	0.40	0.393
HR 32306 J	2FD	43	38	63	59	66	3	5.5	1.5	1.5	18.0	0.32	1.9	1.1	0.57
HR 32306 CJ	5FD	43	36	63	54	68	3	5.5	1.5	1.5	22.0	0.55	1.1	0.60	0.583
HR 320/32 XJ	4CC	41	37	52	49	55	3	4	1	1	14.2	0.45	1.3	0.73	0.191
330/32	—	41	37	52	50	55	2	4	1	1	13.8	0.31	1.9	1.1	0.225
HR 302/32	—	41	39	59	56	61	3	3	1	1	14.7	0.37	1.6	0.88	0.277
HR 302/32 C	—	41	39	59	54	62	3	4	1	1	16.9	0.55	1.1	0.60	0.273
HR 322/32	—	41	38	59	54	61	3	4	1	1	15.9	0.37	1.6	0.88	0.336
HR 322/32 C	—	41	39	59	51	62	3	5	1	1	20.2	0.59	1.0	0.56	0.335
HR 332/32 J	2DE	41	38	59	55	62	5	5.5	1	1	17.0	0.35	1.7	0.95	0.40
303/32	—	44	42	66	64	68	3	4.5	1.5	1.5	15.9	0.33	1.8	1.0	0.435
HR 32907 J	2BD	43	40	50	50	52.5	3	2.5	0.6	0.6	10.7	0.29	2.1	1.1	0.123
HR 32007 XJ	4CC	44	40	56	54	60	4	4	1	1	15.0	0.45	1.3	0.73	0.229
HR 33007 J	2CE	44	40	56	55	59	4	4	1	1	14.1	0.31	2.0	1.1	0.267
HR 30207 J	3DB	46	43	63	62	67	3	3	1.5	1.5	15.0	0.37	1.6	0.88	0.34
HR 30207 C	—	46	44	63	59	68	3	5	1.5	1.5	19.6	0.66	0.91	0.50	0.331
HR 32207 J	3DC	46	42	63	61	67.5	3	5	1.5	1.5	17.9	0.37	1.6	0.88	0.456
HR 32207 C	—	46	42	63	58	68.5	3	6	1.5	1.5	20.6	0.55	1.1	0.60	0.442
HR 33207 J	2DE	46	41	63	61	68	5	6	1.5	1.5	18.3	0.35	1.7	0.93	0.54
HR 30307 J	2FB	47	45	71	69	74	3	4.5	2	1.5	16.7	0.32	1.9	1.1	0.538
HR 30307 C	—	47	44	71	65	74	3	6.5	2	1.5	20.3	0.55	1.1	0.60	0.518
HR 30307 DJ	7FB	51	44	71	62	77	3	7.5	2	1.5	25.2	0.83	0.73	0.40	0.519
HR 31307 J	7FB	51	44	71	62	77	3	7.5	2	1.5	25.2	0.83	0.73	0.40	0.52
HR 32307 J	2FE	49	43	71	66	74	3	7.5	2	1.5	20.7	0.32	1.9	1.1	0.765

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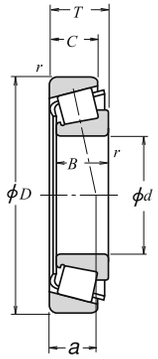
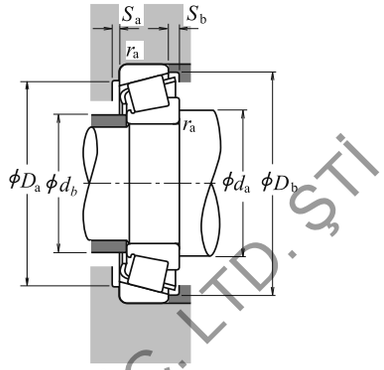
Delik Çapı 40 — 50 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Rulman Numaraları	ISO355 Ebat Serisi	Temel Ölçüler (mm)					Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Dayanak ve Dolgu Ölçüleri (mm)									Etkili Yük Merkezleri (mm)	Sabit	Eksenel Yük Faktörleri		Kütle (kg)
		d	D	T	B	C	Koni Zarf r min.		C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni Zarf r_a maks.	a	e	Y_1	Y_0	yaklaşık
		40	62	15	15	12	0.6	0.6	34 000	47 000	3 450	4 800	5 600	7 500												
			68	19	19	14.5	1	1	53 000	71 000	5 400	7 250	5 300	7 100												
			68	22	22	18	1	1	59 000	81 500	6 000	8 300	5 300	7 100												
			75	26	26	20.5	1.5	1.5	78 500	101 000	8 000	10 300	4 800	6 700												
			80	19.75	18	16	1.5	1.5	63 500	70 000	6 450	7 150	4 800	6 300												
			80	24.75	23	19	1.5	1.5	77 000	90 500	7 900	9 200	4 800	6 300												
			80	24.75	23	19	1.5	1.5	74 000	90 500	7 550	9 200	4 500	6 300												
			80	32	32	25	1.5	1.5	107 000	137 000	10 900	14 000	4 800	6 300												
			90	25.25	23	20	2	1.5	90 500	101 000	9 250	10 300	4 300	5 600												
			90	25.25	23	18	2	1.5	84 500	93 500	8 600	9 500	4 300	5 600												
			90	25.25	23	17	2	1.5	80 000	89 500	8 150	9 150	3 800	5 300												
			90	25.25	23	17	2	1.5	80 000	89 500	8 150	9 150	3 800	5 300												
			90	35.25	33	27	2	1.5	120 000	145 000	12 200	14 800	4 300	6 000												
		45	68	15	15	12	0.6	0.6	34 500	50 500	3 550	5 150	5 000	6 700												
			75	20	20	15.5	1	1	60 000	83 000	6 150	8 450	4 500	6 300												
			75	24	24	19	1	1	69 000	99 000	7 050	10 100	4 800	6 300												
			80	26	26	20.5	1.5	1.5	84 000	113 000	8 550	11 600	4 500	6 000												
			85	20.75	19	16	1.5	1.5	68 500	79 500	6 950	8 100	4 300	6 000												
			85	24.75	23	19	1.5	1.5	83 000	102 000	8 500	10 400	4 300	6 000												
			85	24.75	23	19	1.5	1.5	75 500	95 500	7 700	9 750	4 300	5 600												
			85	32	32	25	1.5	1.5	111 000	147 000	11 300	15 000	4 300	6 000												
			95	29	26.5	20	2.5	2.5	88 500	109 000	9 050	11 100	3 600	5 000												
			95	36	35	30	2.5	2.5	139 000	174 000	14 200	17 800	4 000	5 300												
			100	27.25	25	22	2	1.5	112 000	127 000	11 400	12 900	3 800	5 300												
			100	27.25	25	18	2	1.5	95 500	109 000	9 750	11 100	3 400	4 800												
			100	27.25	25	18	2	1.5	95 500	109 000	9 750	11 100	3 400	4 800												
			100	38.25	36	30	2	1.5	144 000	177 000	14 700	18 000	3 800	5 300												
		50	100	36	35	30	2.5	2.5	144 000	185 000	14 600	18 800	3 800	5 000												
			72	15	15	12	0.6	0.6	36 000	54 000	3 650	5 500	4 500	6 300												
			80	20	20	15.5	1	1	61 000	87 000	6 250	8 900	4 300	6 000												
			80	24	24	19	1	1	70 500	104 000	7 150	10 600	4 300	6 000												
			85	26	26	20	1.5	1.5	89 000	126 000	9 100	12 800	4 300	5 600												
			90	21.75	20	17	1.5	1.5	76 000	91 500	7 750	9 300	4 000	5 300												
			90	24.75	23	19	1.5	1.5	87 500	109 000	8 900	11 100	4 000	5 300												
			90	24.75	23	18	1.5	1.5	77 500	102 000	7 900	10 400	3 800	5 300												
			90	32	32	24.5	1.5	1.5	118 000	165 000	12 100	16 800	4 000	5 300												
			105	32	29	22	3	3	109 000	133 000	11 100	13 600	3 200	4 500												
			110	29.25	27	23	2.5	2	130 000	148 000	13 300	15 100	3 400	4 800												
			110	29.25	27	19	2.5	2	114 000	132 000	11 700	13 400	3 200	4 300												
			110	29.25	27	19	2.5	2	114 000	132 000	11 700	13 400	3 200	4 300												
			110	42.25	40	33	2.5	2	176 000	220 000	17 900	22 400	3 600	4 800												
			110	42.25	40	33	2.5	2	164 000	218 000	16 800	22 200	3 400	4 800												
HR 32908 J	2BC		48	44	57	57	59	3	3	0.6	0.6	11.5	0.29	2.1	1.1	0.161
HR 32008 XJ	3CD		49	45	62	60	65.5	4	4.5	1	1	15.0	0.38	1.6	0.87	0.28
HR 33008 J	2BE		49	45	62	61	65	4	4	1	1	14.6	0.28	2.1	1.2	0.322
HR 33108 J	2CE		51	46	66	65	71	4	5.5	1.5	1.5	18.0	0.36	1.7	0.93	0.503
HR 30208 J	3DB		51	48	71	69	75	3	3.5	1.5	1.5	16.6	0.37	1.6	0.88	0.437
HR 32208 J	3DC		51	48	71	68	75	3	5.5	1.5	1.5	18.9	0.37	1.6	0.88	0.548
HR 32208 CJ	5DC		51	47	71	65	76	3	5.5	1.5	1.5	21.9	0.55	1.1	0.60	0.558
HR 33208 J	2DE		51	46	71	67	76	5	7	1.5	1.5	20.8	0.36	1.7	0.92	0.744
HR 30308 J	2FB		52	52	81	76	82	3	5	2	1.5	19.5	0.35	1.7	0.96	0.758
HR 30308 C	—		52	50	81	72	84	3	7	2	1.5	22.8	0.53	1.1	0.62	0.735
HR 30308 DJ	7FB		56	50	81	70	87	3	8	2	1.5	28.7	0.83	0.73	0.40	0.728
HR 31308 J	7FB		56	50	81	70	87	3	8	2	1.5	28.7	0.83	0.73	0.40	0.728
HR 32308 J	2FD		54	50	81	73	82	3	8	2	1.5	23.4	0.35	1.7	0.96	1.05
HR 32909 J	2BC		53	50	63	62	64	3	3	0.6	0.6	12.3	0.32	1.9	1.0	0.187
HR 32009 XJ	3CC		54	51	69	67	72	4	4.5	1	1	16.6	0.39	1.5	0.84	0.354
HR 33009 J	2CE		54	51	69	67	71	4	5	1	1	16.3	0.29	2.0	1.1	0.414
HR 33109 J	3CE		56	51	71	69	77	4	5.5	1.5	1.5	19.1	0.38	1.6	0.86	0.552
HR 30209 J	3DB		56	53	76	74	80	3	4.5	1.5	1.5	18.3	0.41	1.5	0.81	0.488
HR 32209 J	3DC		56	53	76	73	81	3	5.5	1.5	1.5	20.1	0.41	1.5	0.81	0.602
HR 32209 CJ	5DC		56	52	76	70	82	3	5.5	1.5	1.5	23.6	0.59	1.0	0.56	0.603
HR 33209 J	3DE		56	51	76	72	81	5	7	1.5	1.5	22.0	0.39	1.6	0.86	0.817
T 7 FC045	7FC		60	53	83	71	91	3	9	2	2	32.1	0.87	0.69	0.38	0.918
T 2 ED045	2ED		60	54	83	79	89	5	6	2	2	23.5	0.32	1.9	1.02	1.22
HR 30309 J	2FB		57	58	91	86	93	3	5	2	1.5	21.1	0.35	1.7	0.96	1.01
HR 30309 DJ	7FB		61	57	91	79	96	3	9	2	1.5	31.5	0.83	0.73	0.40	0.957
HR 31309 J	7FB		61	57	91	79	96	3	9	2	1.5	31.5	0.83	0.73	0.40	0.947
HR 32309 J	2FD		59	56	91	82	93	3	8	2	1.5	25.0	0.35	1.7	0.96	1.42
T 2 ED050	2ED		65	59	88	83	94	6	6	2	2	24.2	0.34	1.8	0.96	1.3
HR 32910 J	2BC		58	54	67	66	69	3	3	0.6	0.6	13.5	0.34	1.8	0.97	0.193
HR 32010 XJ	3CC		59	56	74	71	77	4	4.5	1	1	17.9	0.42	1.4	0.78	0.38
HR 33010 J	2CE		59	55	74	71	76	4	5	1	1	17.4	0.32	1.9	1.0	0.452
HR 33110 J	3CE		61	56	76	74	82	4	6	1.5	1.5	20.3	0.41	1.5	0.8	0.597
HR 30210 J	3DB		61	58	81	79	85	3	4.5	1.5	1.5	19.6	0.42	1.4	0.79	0.557
HR 32210 J	3DC		61	57	81	78	86	3	5.5	1.5	1.5	21.0	0.42	1.4	0.79	0.642
HR 32210 CJ	5DC		61	58	81	76	87	3	6.5	1.5	1.5	24.6	0.59	1.0	0.56	0.655
HR 33210 J	3DE		61	56	81	76	87	5	7.5	1.5	1.5	23.2	0.41	1.5	0.80	0.867
T 7 FC050	7FC		74	59	91	78	100	5	10	2.5	2.5	36.4	0.87	0.69	0.38	1.22
HR 30310 J	2FB		65	65	100	95	102	3	6	2	2	23.1	0.35	1.7	0.96	1.28
HR 30310 DJ	7FB		70	62	100	87	105	3	10	2	2	34.3	0.83	0.73	0.40	1.26
HR 31310 J	7FB		70	62	100	87	105	3	10	2	2	34.3	0.83	0.73	0.40	1.26
HR 32310 J	2FD		68	62	100	91	102	3	9	2	2	28.0	0.35	1.7	0.96	1.88
HR 32310 CJ	5FD		68	59	100	82	103	3	9	2	2	32.8	0.55	1.1	0.60	1.93

Notlar C soneki, orta açılı konik makaralı rulmanları temsil eder. Bunlar son derece özel uygulamalar için tasarlanmış olduğundan lütfen C sonekine sahip rulmanları kullanmadan önce NSK'ya danışınız.

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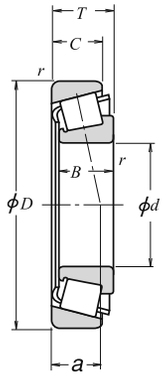
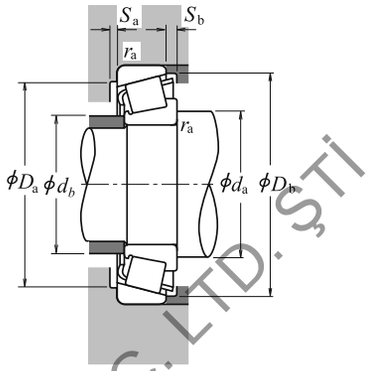
Delik Çapı 55 — 65 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})	
d	D	T	B	C	Koni Zarf r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ
55	80	17	17	14	1 1	45 500	74 500	4 600	7 600	4 300	5 600
	90	23	23	17.5	1.5 1.5	81 500	117 000	8 300	11 900	3 800	5 300
	90	27	27	21	1.5 1.5	91 500	138 000	9 300	14 000	3 800	5 300
	95	30	30	23	1.5 1.5	112 000	158 000	11 500	16 100	3 800	5 000
	100	22.75	21	18	2 1.5	94 500	113 000	9 650	11 500	3 600	5 000
	100	26.75	25	21	2 1.5	110 000	137 000	11 200	14 000	3 600	5 000
	100	35	35	27	2 1.5	141 000	193 000	14 400	19 700	3 600	5 000
	115	34	31	23.5	3 3	126 000	164 000	12 800	16 700	3 000	4 300
	120	31.5	29	25	2.5 2	150 000	171 000	15 200	17 500	3 200	4 300
	120	31.5	29	21	2.5 2	131 000	153 000	13 400	15 600	2 800	4 000
	120	31.5	29	21	2.5 2	131 000	153 000	13 400	15 600	2 800	4 000
	120	45.5	43	35	2.5 2	204 000	258 000	20 800	26 300	3 200	4 300
	120	45.5	43	35	2.5 2	195 000	262 000	19 900	26 700	3 200	4 300
60	85	17	17	14	1 1	49 000	84 500	5 000	8 650	3 800	5 300
	95	23	23	17.5	1.5 1.5	85 500	127 000	8 700	12 900	3 600	5 000
	95	27	27	21	1.5 1.5	96 000	150 000	9 800	15 300	3 600	5 000
	100	30	30	23	1.5 1.5	115 000	166 000	11 700	16 900	3 400	4 800
	110	23.75	22	19	2 1.5	104 000	123 000	10 600	12 500	3 400	4 500
	110	29.75	28	24	2 1.5	131 000	167 000	13 400	17 000	3 400	4 500
	110	38	38	29	2 1.5	166 000	231 000	16 900	23 600	3 400	4 500
	125	37	33.5	26	3 3	151 000	197 000	15 400	20 100	2 800	3 800
	130	33.5	31	26	3 2.5	174 000	201 000	17 700	20 500	3 000	4 000
	130	33.5	31	22	3 2.5	151 000	177 000	15 400	18 100	2 600	3 800
	130	33.5	31	22	3 2.5	151 000	177 000	15 400	18 100	2 600	3 800
	130	48.5	46	37	3 2.5	233 000	295 000	23 700	30 000	3 000	4 000
	130	48.5	46	35	3 2.5	196 000	249 000	20 000	25 400	2 800	3 800
65	90	17	17	14	1 1	49 000	86 500	5 000	8 800	3 600	5 000
	100	23	23	17.5	1.5 1.5	86 500	132 000	8 800	13 500	3 400	4 500
	100	27	27	21	1.5 1.5	97 500	156 000	9 950	15 900	3 400	4 500
	110	34	34	26.5	1.5 1.5	148 000	218 000	15 100	22 200	3 200	4 300
	120	24.75	23	20	2 1.5	122 000	151 000	12 500	15 400	3 000	4 000
	120	32.75	31	27	2 1.5	157 000	202 000	16 000	20 600	3 000	4 000
	120	41	41	32	2 1.5	202 000	282 000	20 600	28 800	3 000	4 000
	140	36	33	28	3 2.5	200 000	233 000	20 400	23 800	2 600	3 600
	140	36	33	23	3 2.5	173 000	205 000	17 700	20 900	2 400	3 400
	140	36	33	23	3 2.5	173 000	205 000	17 700	20 900	2 400	3 400
	140	51	48	39	3 2.5	267 000	340 000	27 300	35 000	2 800	3 800

Rulman Numaraları	ISO355 Ebat Serisi	Dayanak ve Dolgu Ölçüleri (mm)									Etkili Yük Merkezleri (mm)	Sabit	Eksenel Yük Faktörleri		Kütle (kg)
		d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni Zarf r_a maks.		a	e	Y_1	Y_0	yaklaşık
HR 32911 J	2BC	64	60	74	73	76	4	3	1	1	14.6	0.31	1.9	1.1	0.282
HR 32011 XJ	3CC	66	62	81	80	86	4	5.5	1.5	1.5	19.7	0.41	1.5	0.81	0.568
HR 33011 J	2CE	66	62	81	80	86	5	6	1.5	1.5	19.2	0.31	1.9	1.1	0.657
HR 33111 J	3CE	66	62	86	82	91	5	7	1.5	1.5	22.4	0.37	1.6	0.88	0.877
HR 30211 J	3DB	67	64	91	89	94	4	4.5	2	1.5	20.9	0.41	1.5	0.81	0.736
HR 32211 J	3DC	67	63	91	87	95	4	5.5	2	1.5	22.7	0.41	1.5	0.81	0.859
HR 33211 J	3DE	67	62	91	86	96	6	8	2	1.5	25.2	0.40	1.5	0.83	1.18
T7 FC055	7FC	73	66	101	86	109	4	10.5	2.5	2.5	39.0	0.87	0.69	0.38	1.58
HR 30311 J	2FB	70	71	110	104	111	4	6.5	2	2	24.6	0.35	1.7	0.96	1.63
HR 30311 DJ	7FB	75	67	110	94	114	4	10.5	2	2	37.0	0.83	0.73	0.40	1.58
HR 31311 J	7FB	75	67	110	94	114	4	10.5	2	2	37.0	0.83	0.73	0.40	1.58
HR 32311 J	2FD	73	67	110	99	111	4	10.5	2	2	29.9	0.35	1.7	0.96	2.39
HR 32311 CJ	5FD	73	65	110	91	112	4	10.5	2	2	35.8	0.55	1.1	0.60	2.47
HR 32912 J	2BC	69	65	79	78	81	4	3	1	1	15.5	0.33	1.8	1.0	0.306
HR 32012 XJ	4CC	71	66	86	85	91	4	5.5	1.5	1.5	20.9	0.43	1.4	0.77	0.608
HR 33012 J	2CE	71	66	86	85	90	5	6	1.5	1.5	20.0	0.33	1.8	1.0	0.713
HR 33112 J	3CE	71	68	91	88	96	5	7	1.5	1.5	23.6	0.40	1.5	0.83	0.91
HR 30212 J	3EB	72	69	101	96	103	4	4.5	2	1.5	22.0	0.41	1.5	0.81	0.930
HR 32212 J	3EC	72	68	101	95	104	4	5.5	2	1.5	24.1	0.41	1.5	0.81	1.18
HR 33212 J	3EE	72	68	101	94	105	6	9	2	1.5	27.6	0.40	1.5	0.82	1.56
T7 FC060	7FC	78	72	111	94	119	4	11	2.5	2.5	41.4	0.82	0.73	0.40	2.03
HR 30312 J	2FB	78	77	118	112	120	4	7.5	2.5	2	26.0	0.35	1.7	0.96	2.03
HR 30312 DJ	7FB	84	74	118	103	125	4	11.5	2.5	2	40.3	0.83	0.73	0.40	1.98
HR 31312 J	7FB	84	74	118	103	125	4	11.5	2.5	2	40.3	0.83	0.73	0.40	1.98
HR 32312 J	2FD	81	74	118	107	120	4	11.5	2.5	2	31.4	0.35	1.7	0.96	2.96
32312 C	—	81	74	116	102	125	4	13.5	2.5	2	39.9	0.58	1.0	0.57	2.86
HR 32913 J	2BC	74	70	84	82	86	4	3	1	1	16.8	0.35	1.7	0.93	0.323
HR 32013 XJ	4CC	76	71	91	90	97	4	5.5	1.5	1.5	22.4	0.46	1.3	0.72	0.646
HR 33013 J	2CE	76	71	91	90	96	5	6	1.5	1.5	21.1	0.35	1.7	0.95	0.76
HR 33113 J	3DE	76	73	101	96	106	6	7.5	1.5	1.5	26.0	0.39	1.5	0.85	1.32
HR 30213 J	3EB	77	78	111	106	113	4	4.5	2	1.5	23.8	0.41	1.5	0.81	1.18
HR 32213 J	3EC	77	75	111	104	115	4	5.5	2	1.5	27.1	0.41	1.5	0.81	1.55
HR 33213 J	3EE	77	74	111	102	115	6	9	2	1.5	29.2	0.39	1.5	0.85	2.04
HR 30313 J	2GB	83	83	128	121	130	4	8	2.5	2	27.9	0.35	1.7	0.96	2.51
HR 30313 DJ	7GB	89	80	128	111	133	4	13	2.5	2	43.2	0.83	0.73	0.40	2.43
HR 31313 J	7GB	89	80	128	111	133	4	13	2.5	2	43.2	0.83	0.73	0.40	2.43
HR 32313 J	2GD	86	80	128	116	130	4	12	2.5	2	34.0	0.35	1.7	0.96	3.6

Notlar C soneki, orta açılı konik makaralı rulmanları temsil eder. Bunlar son derece özel uygulamalar için tasarlanmış olduğundan lütfen C sonekine sahip rulmanları kullanmadan önce NSK'ya danışınız.

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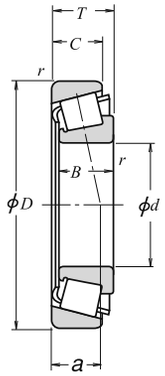
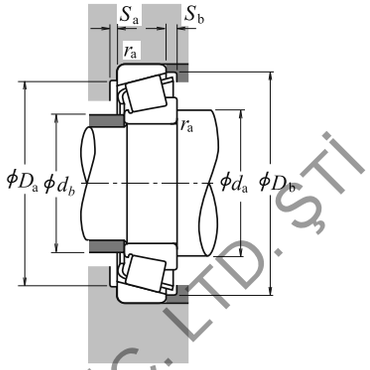
Delik Çapı 70 — 80 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)						Temel Yük Değerleri (N)		Temel Yük Değerleri {kgf}		Limit Hızları (dak^{-1})	
d	D	T	B	C	Koni r min.	Zarf r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ
70	100	20	20	16	1	1	70 000	113 000	7 150	11 500	3 200	4 500
	110	25	25	19	1.5	1.5	104 000	158 000	10 600	16 100	3 200	4 300
	110	31	31	25.5	1.5	1.5	127 000	204 000	12 900	20 800	3 000	4 300
	120	37	37	29	2	1.5	177 000	262 000	18 100	26 700	3 000	4 000
	125	26.25	24	21	2	1.5	132 000	163 000	13 500	16 700	2 800	4 000
	125	33.25	31	27	2	1.5	157 000	205 000	16 100	20 900	2 800	4 000
	125	41	41	32	2	1.5	209 000	299 000	21 300	30 500	2 800	4 000
	140	39	35.5	27	3	3	177 000	229 000	18 000	23 400	2 400	3 400
	150	38	35	30	3	2.5	227 000	268 000	23 200	27 400	2 400	3 400
	150	38	35	25	3	2.5	192 000	229 000	19 600	23 300	2 200	3 200
	150	38	35	25	3	2.5	192 000	229 000	19 600	23 300	2 200	3 200
	150	54	51	42	3	2.5	300 000	390 000	30 500	39 500	2 600	3 400
	150	54	51	42	3	2.5	280 000	390 000	28 600	39 500	2 400	3 400
75	105	20	20	16	1	1	72 500	120 000	7 400	12 300	3 200	4 300
	115	25	25	19	1.5	1.5	109 000	171 000	11 100	17 400	3 000	4 000
	115	31	31	25.5	1.5	1.5	133 000	220 000	13 500	22 500	3 000	4 000
	125	37	37	29	2	2	182 000	275 000	18 600	28 100	2 800	3 800
	130	27.25	25	22	2	1.5	143 000	182 000	14 600	18 500	2 800	3 800
	130	33.25	31	27	2	1.5	165 000	219 000	16 900	22 400	2 800	3 800
	130	41	41	31	2	1.5	215 000	315 000	21 900	32 000	2 800	3 800
	160	40	37	31	3	2.5	253 000	300 000	25 800	30 500	2 400	3 200
	160	40	37	26	3	2.5	211 000	251 000	21 500	25 600	2 200	3 000
	160	40	37	26	3	2.5	211 000	251 000	21 500	25 600	2 200	3 000
	160	58	55	45	3	2.5	340 000	445 000	35 000	45 500	2 400	3 200
	160	58	55	43	3	2.5	310 000	420 000	32 000	43 000	2 200	3 200
80	110	20	20	16	1	1	75 000	128 000	7 650	13 100	3 000	4 000
	125	29	29	22	1.5	1.5	140 000	222 000	14 300	22 700	2 800	3 600
	125	36	36	29.5	1.5	1.5	172 000	282 000	17 500	28 800	2 800	3 600
	130	37	37	29	2	1.5	186 000	289 000	19 000	29 400	2 600	3 600
	140	28.25	26	22	2.5	2	157 000	195 000	16 000	19 900	2 600	3 400
	140	28.25	26	20	2.5	2	147 000	190 000	15 000	19 400	2 400	3 400
	140	35.25	33	28	2.5	2	192 000	254 000	19 600	25 900	2 600	3 400
	140	46	46	35	2.5	2	256 000	385 000	26 200	39 000	2 600	3 400
	170	42.5	39	33	3	2.5	276 000	330 000	28 200	33 500	2 200	3 000
	170	42.5	39	27	3	2.5	235 000	283 000	24 000	28 900	2 000	2 800
	170	42.5	39	27	3	2.5	235 000	283 000	24 000	28 900	2 000	2 800
	170	61.5	58	48	3	2.5	385 000	505 000	39 000	51 500	2 200	3 000
	170	61.5	58	48	3	2.5	365 000	530 000	37 500	54 000	2 200	3 000

Rulman Numaraları	ISO355 Ebat Serisi yaklaşık	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni r_a maks.	Zarf r_a maks.	Etkili Yük Merkezleri (mm) a	Sabit e	Eksenel Yük Faktörleri Y_1	Y_0	Kütle (kg) yaklaşık
HR 32914 J	2BC	79	76	94	93	96	4	4	1	1	17.6	0.32	1.9	1.1	0.494
HR 32014 XJ	4CC	81	77	101	98	105	5	6	1.5	1.5	23.7	0.43	1.4	0.76	0.869
HR 33014 J	2CE	81	78	101	100	105	5	5.5	1.5	1.5	22.2	0.28	2.1	1.2	1.11
HR 33114 J	3DE	82	79	111	104	115	6	8	2	1.5	27.9	0.38	1.6	0.87	1.71
HR 30214 J	3EB	82	81	116	110	118	4	5	2	1.5	25.6	0.42	1.4	0.79	1.3
HR 32214 J	3EC	82	80	116	108	119	4	6	2	1.5	28.6	0.42	1.4	0.79	1.66
HR 33214 J	3EE	82	78	116	107	120	7	9	2	1.5	30.4	0.41	1.5	0.81	2.15
T7 FC070	7FC	88	79	126	106	133	5	12	2.5	2.5	46.4	0.87	0.69	0.38	2.55
HR 30314 J	2GB	88	89	138	132	140	4	8	2.5	2	29.7	0.35	1.7	0.96	3.03
HR 30314 DJ	7GB	94	85	138	118	142	4	13	2.5	2	45.8	0.83	0.73	0.40	2.94
HR 31314 J	7GB	94	85	138	118	142	4	13	2.5	2	45.8	0.83	0.73	0.40	2.94
HR 32314 J	2GD	91	86	138	124	140	4	12	2.5	2	36.1	0.35	1.7	0.96	4.35
HR 32314 CJ	5GD	91	84	138	115	141	4	12	2.5	2	43.3	0.55	1.1	0.60	4.47
HR 32915 J	2BC	84	81	99	98	101	4	4	1	1	18.7	0.33	1.8	0.99	0.53
HR 32015 XJ	4CC	86	82	106	103	110	5	6	1.5	1.5	25.1	0.46	1.3	0.72	0.925
HR 33015 J	2CE	86	83	106	104	110	6	5.5	1.5	1.5	23.0	0.30	2.0	1.1	1.18
HR 33115 J	3DE	87	83	115	109	120	6	8	2	2	29.2	0.40	1.5	0.83	1.8
HR 30215 J	4DB	87	85	121	115	124	4	5	2	1.5	27.0	0.44	1.4	0.76	1.43
HR 32215 J	4DC	87	84	121	113	125	4	6	2	1.5	29.8	0.44	1.4	0.76	1.72
HR 33215 J	3EE	87	83	121	111	125	7	10	2	1.5	31.6	0.43	1.4	0.77	2.25
HR 30315 J	2GB	93	95	148	141	149	4	9	2.5	2	31.8	0.35	1.7	0.96	3.63
HR 30315 DJ	7GB	99	91	148	129	152	6	14	2.5	2	48.8	0.83	0.73	0.40	3.47
HR 31315 J	7GB	99	91	148	129	152	6	14	2.5	2	48.8	0.83	0.73	0.40	3.47
HR 32315 J	2GD	96	91	148	134	149	4	13	2.5	2	38.9	0.35	1.7	0.96	5.31
32315 CA	—	96	90	148	124	153	4	15	2.5	2	47.7	0.58	1.0	0.57	5.3
HR 32916 J	2BC	89	85	104	102	106	4	4	1	1	19.8	0.35	1.7	0.94	0.56
HR 32016 XJ	3CC	91	89	116	112	120	6	7	1.5	1.5	26.9	0.42	1.4	0.78	1.32
HR 33016 J	2CE	91	88	116	112	119	6	6.5	1.5	1.5	25.5	0.28	2.2	1.2	1.66
HR 33116 J	3DE	82	88	121	113	126	6	8	2	1.5	30.4	0.42	1.4	0.79	1.88
HR 30216 J	3EB	95	91	130	124	132	4	6	2	2	28.1	0.42	1.4	0.79	1.68
30216 CA	—	95	92	130	122	133	4	8	2	2	33.8	0.58	1.0	0.57	1.66
HR 32216 J	3EC	95	90	130	122	134	4	7	2	2	30.6	0.42	1.4	0.79	2.13
HR 33216 J	3EE	95	89	130	119	135	7	11	2	2	34.8	0.43	1.4	0.78	2.93
HR 30316 J	2GB	98	102	158	150	159	4	9.5	2.5	2	34.0	0.35	1.7	0.96	4.27
HR 30316 DJ	7GB	104	97	158	136	159	6	15.5	2.5	2	51.8	0.83	0.73	0.40	4.07
HR 31316 J	7GB	104	97	158	136	159	6	15.5	2.5	2	51.8	0.83	0.73	0.40	4.07
HR 32316 J	2GD	101	98	158	143	159	4	13.5	2.5	2	41.4	0.35	1.7	0.96	6.35
HR 32316 CJ	5GD	101	95	158	132	160	4	13.5	2.5	2	49.3	0.55	1.1	0.60	6.59

Notlar CA soneki, orta açılı konik makaralı rulmanları temsil eder. Bunlar son derece özel uygulamalar için tasarlanmış olduğundan lütfen CA sonekine sahip rulmanları kullanmadan önce NSK'ya danışınız.

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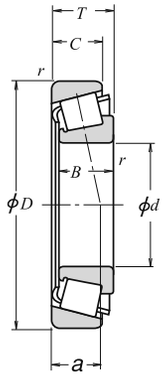
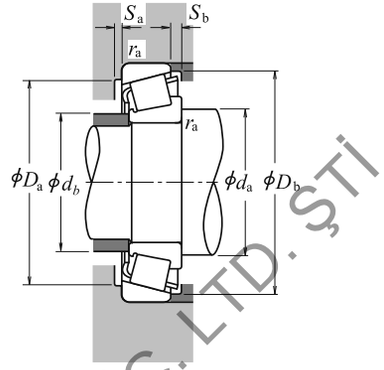
Delik Çapı 85 — 100 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Rulman Numaraları	ISO355 Ebat Serisi	Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Dayanak ve Dolgu Ölçüleri (mm)										Etkili Yük Merkezleri (mm)	Sabit	Eksenel Yük Faktörleri		Kütle (kg)
		d	D	T	B	C	Koni r min.	Zarf r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni r_a maks.	Zarf r_a maks.	a	e	Y_1	Y_0	yaklaşık
HR 32917 J	2BC	85	120	23	23	18	1.5	1.5	93 500	157 000	9 550	16 000	2 800	3 800	96	92	111	111	115	5	5	1.5	1.5	20.9	0.33	1.8	1.0	0.8
HR 32017 XJ	4CC		130	29	29	22	1.5	1.5	143 000	231 000	14 600	23 600	2 600	3 600	96	94	121	116	125	6	7	1.5	1.5	28.2	0.44	1.4	0.75	1.38
HR 33017 J	2CE		130	36	36	29.5	1.5	1.5	180 000	305 000	18 400	31 000	2 600	3 600	96	94	121	117	125	6	6.5	1.5	1.5	26.5	0.29	2.1	1.1	1.75
HR 33117 J	3DE		140	41	41	32	2.5	2	230 000	365 000	23 500	37 000	2 400	3 400	100	94	130	122	135	7	9	2	2	32.7	0.41	1.5	0.81	2.51
HR 30217 J	3EB		150	30.5	28	24	2.5	2	184 000	233 000	18 700	23 800	2 400	3 200	100	97	140	133	141	5	6.5	2	2	30.3	0.42	1.4	0.79	2.12
30217 CA	—		150	30.5	28	22	2.5	2	171 000	226 000	17 500	23 000	2 200	3 200	100	98	140	131	142	5	8.5	2	2	36.2	0.58	1.0	0.57	2.07
HR 32217 J	3EC		150	38.5	36	30	2.5	2	210 000	277 000	21 400	28 200	2 200	3 200	100	96	140	131	142	5	8.5	2	2	33.9	0.42	1.4	0.79	2.64
HR 33217 J	3EE		150	49	49	37	2.5	2	281 000	415 000	28 700	42 500	2 400	3 200	100	95	140	129	144	7	12	2	2	37.3	0.42	1.4	0.79	3.57
HR 30317 J	2GB		180	44.5	41	34	4	3	310 000	375 000	31 500	38 000	2 000	2 800	106	108	166	157	167	5	10.5	3	2.5	35.8	0.35	1.7	0.96	5.08
HR 30317 DJ	7GB		180	44.5	41	28	4	3	261 000	315 000	26 600	32 000	1 900	2 600	113	103	166	144	169	6	16.5	3	2.5	55.4	0.83	0.73	0.40	4.88
HR 31317 J	7GB		180	44.5	41	28	4	3	261 000	315 000	26 600	32 000	1 900	2 600	113	103	166	144	169	6	16.5	3	2.5	55.4	0.83	0.73	0.40	4.88
HR 32317 J	2GD		180	63.5	60	49	4	3	410 000	535 000	42 000	54 500	2 000	2 800	110	104	166	151	167	5	14.5	3	2.5	43.6	0.35	1.7	0.96	7.31
HR 32918 J	2BC	90	125	23	23	18	1.5	1.5	97 000	167 000	9 850	17 000	2 600	3 600	101	97	116	116	120	5	5	1.5	1.5	22.0	0.34	1.8	0.96	0.838
HR 32018 XJ	3CC		140	32	32	24	2	1.5	170 000	273 000	17 300	27 800	2 400	3 200	102	99	131	124	134	6	8	2	1.5	29.7	0.42	1.4	0.78	1.78
HR 33018 J	2CE		140	39	39	32.5	2	1.5	220 000	360 000	22 400	37 000	2 400	3 200	102	99	131	129	135	7	6.5	2	1.5	27.9	0.27	2.2	1.2	2.21
HR 33118 J	3DE		150	45	45	35	2.5	2	259 000	405 000	26 500	41 500	2 400	3 200	105	100	140	132	144	7	10	2	2	35.2	0.40	1.5	0.83	3.14
HR 30218 J	3FB		160	32.5	30	26	2.5	2	201 000	256 000	20 500	26 100	2 200	3 000	105	103	150	141	150	5	6.5	2	2	31.7	0.42	1.4	0.79	2.6
HR 32218 J	3FC		160	42.5	40	34	2.5	2	256 000	350 000	26 100	35 500	2 200	3 000	105	102	150	139	152	5	8.5	2	2	36.2	0.42	1.4	0.79	3.41
HR 30318 J	2GB		190	46.5	43	36	4	3	345 000	425 000	35 500	43 000	1 900	2 600	111	114	176	176	176	5	10.5	3	2.5	37.3	0.35	1.7	0.96	5.91
HR 30318 DJ	7GB		190	46.5	43	30	4	3	264 000	315 000	26 900	32 000	1 800	2 400	118	110	176	152	179	6	16.5	3	2.5	58.7	0.83	0.73	0.40	5.52
HR 31318 J	7GB		190	46.5	43	30	4	3	264 000	315 000	26 900	32 000	1 800	2 400	118	110	176	152	179	6	16.5	3	2.5	58.7	0.83	0.73	0.40	5.52
HR 32318 J	2GD		190	67.5	64	53	4	3	450 000	590 000	46 000	60 500	2 000	2 600	115	109	176	158	177	5	14.5	3	2.5	46.5	0.35	1.7	0.96	8.6
HR 32919 J	2BC	95	130	23	23	18	1.5	1.5	98 000	172 000	10 000	17 500	2 400	3 400	106	102	121	121	125	5	5	1.5	1.5	23.2	0.36	1.7	0.92	0.877
HR 32019 XJ	4CC		145	32	32	24	2	1.5	173 000	283 000	17 600	28 900	2 400	3 200	107	104	136	131	140	6	8	2	1.5	31.2	0.44	1.4	0.75	1.88
HR 33019 J	2CE		145	39	39	32.5	2	1.5	231 000	390 000	23 500	39 500	2 400	3 200	107	103	136	133	139	7	6.5	2	1.5	28.6	0.28	2.2	1.2	2.3
T2 ED095	2ED		160	46	46	38	3	3	283 000	445 000	28 800	45 500	2 200	3 000	113	108	146	141	152	6	8	2.5	2.5	34.5	0.34	1.8	0.97	3.74
HR 30219 J	3FB		170	34.5	32	27	3	2.5	223 000	286 000	22 800	29 200	2 200	2 800	113	110	158	150	159	5	7.5	2.5	2	33.7	0.42	1.4	0.79	3.13
HR 32219 J	3FC		170	45.5	43	37	3	2.5	289 000	400 000	29 500	40 500	2 200	2 800	113	108	158	147	161	5	8.5	2.5	2	39.3	0.42	1.4	0.79	4.22
HR 30319 J	2GB		200	49.5	45	38	4	3	370 000	455 000	38 000	46 500	1 900	2 600	116	119	186	172	184	5	11.5	3	2.5	38.6	0.35	1.7	0.96	6.92
30319 CA	—		200	49.5	45	36	4	3	350 000	435 000	35 500	44 000	1 800	2 400	116	119	186	168	188	5	13.5	3	2.5	48.6	0.54	1.1	0.61	6.71
HR 30319 DJ	7GB		200	49.5	45	32	4	3	310 000	375 000	31 500	38 500	1 700	2 400	123	115	186	158	187	6	17.5	3	2.5	61.9	0.83	0.73	0.40	6.64
HR 31319 J	7GB		200	49.5	45	32	4	3	310 000	375 000	31 500	38 500	1 700	2 400	123	115	186	158	187	6	17.5	3	2.5	61.9	0.83	0.73	0.40	6.64
HR 32319 J	2GD		200	71.5	67	55	4	3	525 000	710 000	53 500	72 500	1 900	2 600	120	115	186	167	186	5	16.5	3	2.5	48.6	0.35	1.7	0.96	10.4
HR 32920 J	2CC	100	140	25	25	20	1.5	1.5	117 000	205 000	12 000	20 900	2 200	3 200	111	109	132	132	134	5	5	1.5	1.5	24.2	0.33	1.8	1.0	1.18
T4 CB100	4CB		145	24	22.5	17.5	3	3	113 000	163 000	11 500	16 600	2 200	3 000	118	108	135	135	142	6	6.5	2.5	2.5	30.1	0.47	1.3	0.70	1.18
HR 32020 XJ	4CC		150	32	32	24	2	1.5	176 000	294 000	17 900	30 000	2 200	3 000	112	109	141	136	144	6	8	2	1.5	32.5	0.46	1.3	0.72	1.95
HR 33020 J	2CE		150	39	39	32.5	2	1.5	235 000	405 000	24 000	41 500	2 200	3 000	112	107	141	137	143	7	6.5	2	1.5	29.3	0.29	2.1	1.2	2.38
HR 33120 J	3EE		165	52	52	40	2.5	2	315 000	515 000	32 500	52 500	2 000	2 800	115	110	155	144	159	8	12	2	2	40.5	0.41	1.5	0.81	4.32
HR 30220 J	3FB		180	37	34	29	3	2.5	255 000	330 000	26 000	34 000	2 000	2 600	118	116	168	158	168	5	8	2.5	2	36.1	0.42	1.4	0.79	3.78
HR 32220 J	3FC		180	49	46	39	3	2.5	325 000	450 000	33 000	46 000	2 000	2 600	118	115	168	155	171	5	10	2.5	2	41.5	0.42	1.4	0.79	5.05
HR 33220 J	3FE		180	63	63	48	3	2.5	410 000	635 000	42 000	65 000	2 000	2 600	118	113	168	152	172	10	15	2.5	2	46.0	0.40	1.5	0.82	6.76
HR 30320 J	2GB		215	51.5	47	39	4	3	425 000	525 000	43 000	53 500	1 700	2 400	121	128	201	185	197	5	12.5	3	2.5	41.4	0.35	1.7	0.96	8.41
HR 31320 J	7GB		215	56.5	51	35	4	3	385 000	505 000	39 000	51 500	1 500	2 200	136	125	201	169	202	7	21.5	3	2.5	67.7	0.83	0.73	0.40	9.02
HR 32320 J	2GD		215	77.5	73	60	4	3	565 000	755 000	57 500	77 000	1 700	2 400	125	125	201	178	200	5	17.5	3	2.5	53.2	0.35	1.7	0.96	12.7

Notlar CA soneki, orta açılı konik makaralı rulmanları temsil eder. Bunlar son derece özel uygulamalar için tasarlanmış olduğundan lütfen CA sonekine sahip rulmanları kullanmadan önce NSK'ya danışınız.

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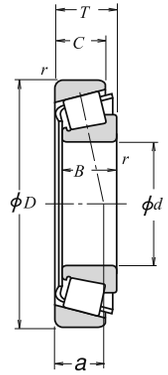
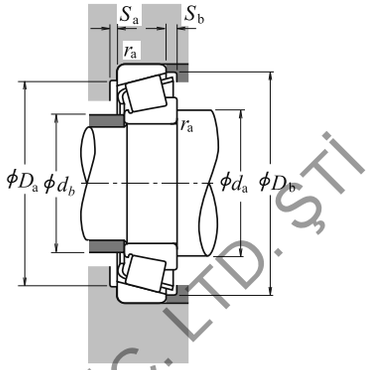
Delik Çapı 105 — 130 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)						Temel Yük Değerleri (N)		(kgf)		Limit Hızları (dak.$^{-1}$)	
d	D	T	B	C	Koni r min.	Zarf r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ
105	145	25	25	20	1.5	1.5	119 000	212 000	12 100	21 600	2 200	3 000
	160	35	35	26	2.5	2	204 000	340 000	20 800	34 500	2 000	2 800
	160	43	43	34	2.5	2	256 000	435 000	26 100	44 000	2 000	2 800
	190	39	36	30	3	2.5	280 000	365 000	28 500	37 500	1 900	2 600
	190	53	50	43	3	2.5	360 000	510 000	37 000	52 000	1 900	2 600
	225	53.5	49	41	4	3	455 000	565 000	46 500	57 500	1 600	2 200
	225	58	53	36	4	3	415 000	540 000	42 000	55 000	1 500	2 000
	225	81.5	77	63	4	3	670 000	925 000	68 000	94 500	1 700	2 200
110	150	25	25	20	1.5	1.5	123 000	224 000	12 500	22 800	2 200	2 800
	170	38	38	29	2.5	2	236 000	390 000	24 000	40 000	2 000	2 600
	170	47	47	37	2.5	2	294 000	515 000	30 000	52 500	2 000	2 600
	180	56	56	43	2.5	2	365 000	610 000	37 500	62 000	1 900	2 600
	200	41	38	32	3	2.5	315 000	420 000	32 000	43 000	1 800	2 400
	200	56	53	46	3	2.5	400 000	565 000	40 500	57 500	1 800	2 400
	240	54.5	50	42	4	3	485 000	595 000	49 500	60 500	1 500	2 000
	240	63	57	38	4	3	470 000	605 000	48 000	62 000	1 400	1 900
	240	84.5	80	65	4	3	675 000	910 000	68 500	93 000	1 500	2 000
120	165	29	29	23	1.5	1.5	161 000	291 000	16 400	29 700	1 900	2 600
	170	27	25	19.5	3	3	153 000	243 000	51 600	24 800	1 800	2 600
	180	38	38	29	2.5	2	242 000	405 000	24 600	41 000	1 800	2 400
	180	48	48	38	2.5	2	300 000	540 000	30 500	55 000	1 800	2 600
	200	62	62	48	2.5	2	460 000	755 000	46 500	77 000	1 700	2 400
	215	43.5	40	34	3	2.5	335 000	450 000	34 000	46 000	1 600	2 200
	215	61.5	58	50	3	2.5	440 000	635 000	44 500	65 000	1 600	2 200
	260	59.5	55	46	4	3	535 000	655 000	54 500	67 000	1 400	1 900
	260	68	62	42	4	3	560 000	730 000	57 000	74 500	1 300	1 800
	260	90.5	86	69	4	3	770 000	1 060 000	78 500	108 000	1 400	1 900
130	180	32	30	26	2	1.5	167 000	281 000	17 000	28 600	1 800	2 400
	180	32	32	25	2	1.5	200 000	365 000	20 400	37 500	1 800	2 400
	185	29	27	21	3	3	183 000	296 000	18 600	30 000	1 700	2 400
	200	45	45	34	2.5	2	320 000	535 000	32 500	54 500	1 600	2 200
	200	55	55	43	2.5	2	395 000	715 000	40 500	73 000	1 700	2 200
	230	43.75	40	34	4	3	375 000	505 000	38 000	51 500	1 500	2 000
	230	67.75	64	54	4	3	530 000	790 000	54 000	80 500	1 500	2 000
	280	63.75	58	49	5	4	545 000	675 000	56 000	68 500	1 300	1 800
	280	63.75	58	49	5	4	650 000	820 000	66 000	83 500	1 300	1 800
	280	72	66	44	5	4	625 000	820 000	63 500	83 500	1 200	1 700
	280	98.75	93	78	5	4	830 000	1 150 000	84 500	117 000	1 300	1 800

Rulman Numaraları	ISO355 Ebat Serisi yaklaşık	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni r_a maks.	Zarf r_a maks.	Etkili Yük Merkezleri (mm) a	Sabit e	Eksenel Yük Faktörleri Y_1	Y_0	Kütle (kg) yaklaşık
HR 32921 J	2CC	116	114	137	137	140	5	5	1.5	1.5	25.3	0.34	1.8	0.96	1.23
HR 32021 XJ	4DC	120	115	150	144	154	6	9	2	2	34.3	0.44	1.4	0.74	2.48
HR 33021 J	2DE	120	115	150	146	153	7	9	2	2	30.9	0.28	2.1	1.2	3.03
HR 30221 J	3FB	123	123	178	166	177	6	9	2.5	2	38.1	0.42	1.4	0.79	4.51
HR 32221 J	3FC	123	120	178	162	180	5	10	2.5	2	44.8	0.42	1.4	0.79	6.25
HR 30321 J	2GB	126	133	211	195	206	6	12.5	3	2.5	43.3	0.35	1.7	0.96	9.52
HR 31321 J	7GB	141	130	211	177	211	7	22	3	2.5	70.2	0.83	0.73	0.40	10
HR 32321 J	2GD	130	129	211	186	209	6	18.5	3	2.5	55.2	0.35	1.7	0.96	14.9
HR 32922 J	2CC	121	119	142	142	145	5	5	1.5	1.5	26.5	0.36	1.7	0.93	1.29
HR 32022 XJ	4DC	125	121	160	153	163	7	9	2	2	35.9	0.43	1.4	0.77	3.09
HR 33022 J	2DE	125	121	160	153	161	7	10	2	2	33.7	0.29	2.1	1.2	3.84
HR 33122 J	3EE	125	121	170	156	174	9	13	2	2	44.1	0.42	1.4	0.79	5.54
HR 30222 J	3FB	128	129	188	175	187	6	9	2.5	2	40.2	0.42	1.4	0.79	5.28
HR 32222 J	3FC	128	127	188	171	190	5	10	2.5	2	47.2	0.42	1.4	0.79	7.35
HR 30322 J	2GB	131	143	226	208	220	6	12.5	3	2.5	45.1	0.35	1.7	0.96	11
HR 31322 J	7GB	146	136	226	191	224	7	25	3	2.5	74.8	0.83	0.73	0.40	12.3
HR 32322 J	2GD	135	139	226	201	222	6	19.5	3	2.5	58.6	0.35	1.7	0.96	17.1
HR 32924 J	2CC	131	129	156	155	160	6	6	1.5	1.5	29.2	0.35	1.7	0.95	1.8
T4 CB120	4CB	138	129	158	158	164	7	7.5	2.5	2.5	35.0	0.47	1.3	0.70	1.78
HR 32024 XJ	4DC	135	131	170	162	173	7	9	2	2	39.7	0.46	1.3	0.72	3.27
HR 33024 J	2DE	135	130	168	161	171	6	10	2	2	36.0	0.31	2.0	1.1	4.2
HR 33124 J	3FE	135	133	190	173	192	9	14	2	2	47.9	0.40	1.5	0.83	7.67
HR 30224 J	4FB	138	141	203	190	201	6	9.5	2.5	2	44.4	0.44	1.4	0.76	6.28
HR 32224 J	4FD	138	137	203	181	204	6	11.5	2.5	2	52.1	0.44	1.4	0.76	9.0
HR 30324 J	2GB	141	154	246	223	237	6	13.5	3	2.5	50.0	0.35	1.7	0.96	13.9
HR 31324 J	7GB	156	148	246	206	244	9	26	3	2.5	81.7	0.83	0.73	0.40	15.6
HR 32324 J	2GD	145	149	246	216	239	6	21.5	3	2.5	62.5	0.35	1.7	0.96	21.8
32926	—	142	141	171	168	175	6	6	2	1.5	34.7	0.36	1.7	0.92	2.25
HR 32926 J	2CC	142	140	170	168	173	6	7	2	1.5	31.4	0.34	1.8	0.97	2.46
T4 CB130	4CB	148	141	171	171	179	8	8	2.5	2.5	37.5	0.47	1.3	0.70	2.32
HR 32026 XJ	4EC	145	144	190	179	192	8	11	2	2	43.9	0.43	1.4	0.76	5.06
HR 33026 J	2EE	145	144	188	179	192	8	12	2	2	42.4	0.34	1.8	0.97	6.25
HR 30226 J	4FB	151	151	216	205	217	7	9.5	3	2.5	45.9	0.44	1.4	0.76	7.25
HR 32226 J	4FD	151	147	216	196	219	7	13.5	3	2.5	57.0	0.44	1.4	0.76	11.3
30326	—	157	168	262	239	255	8	14.5	4	3	53.9	0.36	1.7	0.92	16.6
HR 30326 J	2GB	157	166	262	241	255	8	14.5	4	3	52.8	0.35	1.7	0.96	17.2
HR 31326 J	7GB	174	159	262	220	261	9	28	4	3	87.1	0.83	0.73	0.40	18.8
32326	—	162	165	262	233	263	8	20.5	4	3	69.2	0.36	1.7	0.92	26.6

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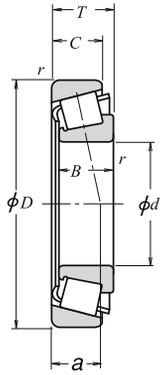
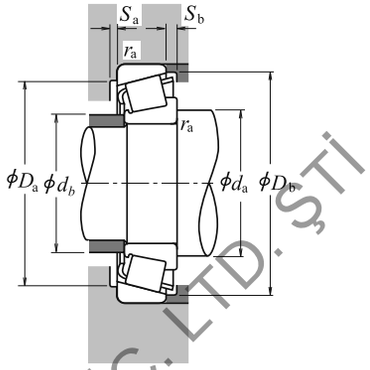
Delik Çapı 140 — 170 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman Numaraları	ISO355 Ebat Serisi	Dayanak ve Dolgu Ölçüleri (mm)									Etkili Yük Merkezleri (mm)	Sabit	Eksenel Yük Faktörleri		Kütle (kg)
d	D	T	B	C	Koni r min.	Zarf r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ		yaklaşık	d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni r_a maks.	Zarf r_a maks.	a	e	Y_1	Y_0	yaklaşık
140	190	32	32	25	2	1.5	206 000	390 000	21 000	39 500	1 700	2 200	**HR 32928 J**	2CC	152	150	180	178	184	6	7	2	1.5	33.6	0.36	1.7	0.92	2.64
	210	45	45	34	2.5	2	325 000	555 000	33 000	57 000	1 600	2 200	**HR 32028 XJ**	4DC	155	152	200	189	202	8	11	2	2	46.6	0.46	1.3	0.72	5.32
	210	56	56	44	2.5	2	410 000	770 000	42 000	78 500	1 600	2 200	**HR 33028 J**	2DE	155	153	198	189	202	7	12	2	2	45.5	0.36	1.7	0.92	6.74
	250	45.75	42	36	4	3	390 000	515 000	40 000	52 500	1 400	1 900	**HR 30228 J**	4FB	161	164	236	221	234	7	9.5	3	2.5	48.9	0.44	1.4	0.76	8.74
	250	71.75	68	58	4	3	610 000	915 000	62 000	93 500	1 400	1 900	**HR 32228 J**	4FD	161	159	236	213	238	9	13.5	3	2.5	60.5	0.44	1.4	0.76	14.3
	300	67.75	62	53	5	4	740 000	945 000	75 500	96 500	1 200	1 700	**HR 30328 J**	2GB	167	177	282	256	273	9	14.5	4	3	55.7	0.35	1.7	0.96	21.1
	300	77	70	47	5	4	695 000	955 000	71 000	97 500	1 100	1 500	**HR 31328 J**	7GB	184	174	282	236	280	9	30	4	3	92.9	0.83	0.73	0.40	28.5
	300	107.75	102	85	5	4	985 000	1 440 000	101 000	147 000	1 200	1 600	**32328**	—	172	177	282	246	281	9	22.5	4	3	76.4	0.37	1.6	0.88	33.9
150	210	38	36	31	2.5	2	247 000	440 000	25 200	45 000	1 500	2 000	**32930**	—	165	162	200	195	201	7	7	2	2	36.7	0.33	1.8	1.0	3.8
	210	38	38	30	2.5	2	281 000	520 000	28 600	53 000	1 500	2 000	**HR 32.930 J**	2DC	165	163	198	196	202	7	8	2	2	36.5	0.33	1.8	1.0	4.05
	225	48	48	36	3	2.5	375 000	650 000	38 000	66 500	1 400	2 000	**HR 32030 XJ**	4EC	168	164	213	202	216	8	12	2.5	2	49.8	0.46	1.3	0.72	6.6
	225	59	59	46	3	2.5	435 000	805 000	44 000	82 000	1 400	2 000	**HR 33030 J**	2EE	168	165	213	203	217	8	13	2.5	2	48.7	0.36	1.7	0.90	8.07
	270	49	45	38	4	3	485 000	665 000	49 000	67 500	1 300	1 800	**HR 30230 J**	2GB	171	175	256	236	250	7	11	3	2.5	51.3	0.44	1.4	0.76	11.2
	270	77	73	60	4	3	705 000	1 080 000	71 500	110 000	1 300	1 800	**HR 32230 J**	4GD	171	171	256	228	254	8	17	3	2.5	64.7	0.44	1.4	0.76	17.8
	320	72	65	55	5	4	690 000	860 000	70 000	87 500	1 100	1 500	**30330**	—	177	193	302	275	292	8	17	4	3	61.4	0.36	1.7	0.92	24.2
	320	72	65	55	5	4	825 000	1 060 000	84 500	108 000	1 100	1 600	**HR 30330 J**	2GB	177	190	302	276	292	8	17	4	3	60.0	0.35	1.7	0.96	25
	320	82	75	50	5	4	790 000	1 100 000	80 500	112 000	1 000	1 400	**HR 31330 J**	7GB	194	187	302	253	300	9	32	4	3	99.3	0.83	0.73	0.40	28.5
	320	114	108	90	5	4	1 120 000	1 700 000	114 000	174 000	1 100	1 500	**32330**	—	182	191	302	262	297	8	24	4	3	81.5	0.37	1.6	0.88	41.4
160	220	38	38	30	2.5	2	296 000	570 000	30 000	58 000	1 400	1 900	**HR 32932 J**	2DC	175	173	208	206	212	7	8	2	2	38.7	0.35	1.7	0.95	4.32
	240	51	51	38	3	2.5	425 000	750 000	43 500	76 500	1 300	1 800	**HR 32032 XJ**	4EC	178	175	228	216	231	8	13	2.5	2	53.0	0.46	1.3	0.72	7.93
	290	52	48	40	4	3	530 000	730 000	54 000	74 500	1 200	1 600	**HR 30232 J**	4GB	181	189	276	253	269	8	12	3	2.5	55.0	0.44	1.4	0.76	13.7
	290	84	80	67	4	3	795 000	1 220 000	81 000	125 000	1 200	1 600	**HR 32232 J**	4GD	181	184	276	243	274	10	17	3	2.5	70.5	0.44	1.4	0.76	22.7
	340	75	68	58	5	4	765 000	960 000	78 000	98 000	1 000	1 400	**30332**	—	187	205	322	293	311	10	17	4	3	64.6	0.36	1.7	0.92	28.4
	340	75	68	58	5	4	870 000	1 110 000	89 000	113 000	1 100	1 400	**HR 30332 J**	2GB	187	201	322	293	310	10	17	4	3	62.9	0.35	1.7	0.96	29.2
	340	75	68	48	5	4	675 000	875 000	69 000	89 000	950	1 300	**30332 D**	—	196	198	322	270	313	9	27	4	3	99.4	0.81	0.74	0.41	27.5
	340	121	114	95	5	4	1 210 000	1 770 000	123 000	181 000	1 000	1 400	**32332**	—	192	202	322	281	319	10	26	4	3	87.1	0.37	1.6	0.88	48.3
170	230	38	36	31	2.5	2.5	258 000	485 000	26 300	49 500	1 300	1 800	**32934**	—	185	183	220	216	223	7	7	2	2	41.6	0.36	1.7	0.90	4.3
	230	38	38	30	2.5	2	294 000	560 000	30 000	57 000	1 400	1 800	**HR 32934 J**	3DC	185	180	218	215	222	7	8	2	2	41.7	0.38	1.6	0.86	4.44
	260	57	57	43	3	2.5	505 000	890 000	51 500	90 500	1 200	1 700	**HR 32034 XJ**	4EC	188	187	248	232	249	10	14	2.5	2	56.6	0.44	1.4	0.74	10.6
	310	57	52	43	5	4	630 000	885 000	64 000	90 000	1 100	1 500	**HR 30234 J**	4GB	197	202	292	273	288	8	14	4	3	59.4	0.44	1.4	0.76	17.1
	310	91	86	71	5	4	930 000	1 450 000	94 500	148 000	1 100	1 500	**HR 32234 J**	4GD	197	197	292	262	294	10	20	4	3	76.4	0.44	1.4	0.76	28
	360	80	72	62	5	4	845 000	1 080 000	86 000	110 000	950	1 300	**30334**	—	197	221	342	312	332	10	18	4	3	70.1	0.37	1.6	0.90	33.5
	360	80	72	62	5	4	960 000	1 230 000	98 000	125 000	1 000	1 300	**HR 30334 J**	2GB	197	214	342	310	329	10	18	4	3	67.3	0.35	1.7	0.96	34.5
	360	80	72	50	5	4	760 000	1 040 000	77 500	106 000	900	1 200	**30334 D**	—	206	215	342	288	332	10	30	4	3	107.3	0.81	0.74	0.41	33.4
	360	127	120	100	5	4	1 370 000	2 050 000	140 000	209 000	1 000	1 300	**32334**	—	202	213	342	297	337	10	27	4	3	91.3	0.37	1.6	0.88	57

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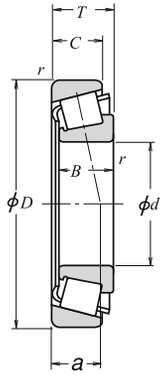
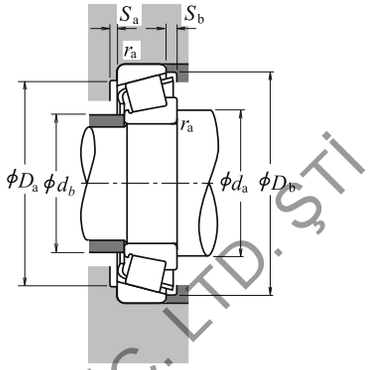
Delik Çapı 180 — 240 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})	
d	D	T	B	C	Koni r min.	Zarf r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ
180	250	45	45	34	2.5	2	350 000	685 000	36 000	69 500	1 300	1 700
	280	64	64	48	3	2.5	640 000	1 130 000	65 000	115 000	1 200	1 600
	320	57	52	43	5	4	650 000	930 000	66 000	95 000	1 100	1 400
	320	91	86	71	5	4	960 000	1 540 000	98 000	157 000	1 100	1 400
	380	83	75	64	5	4	935 000	1 230 000	95 500	126 000	900	1 300
	380	83	75	53	5	4	820 000	1 120 000	83 500	114 000	850	1 200
	380	134	126	106	5	4	1 520 000	2 290 000	155 000	234 000	950	1 300
190	260	45	45	34	2.5	2	365 000	715 000	37 000	73 000	1 200	1 600
	290	64	64	48	3	2.5	650 000	1 170 000	66 000	119 000	1 100	1 500
	340	60	55	46	5	4	715 000	1 020 000	73 000	104 000	1 000	1 300
	340	97	92	75	5	4	1 110 000	1 770 000	113 000	181 000	1 000	1 400
	400	86	78	65	6	5	1 010 000	1 340 000	103 000	136 000	850	1 200
	400	140	132	109	6	5	1 660 000	2 580 000	169 000	263 000	850	1 200
200	280	51	48	41	3	2.5	410 000	780 000	42 000	80 000	1 100	1 500
	280	51	51	39	3	2.5	480 000	935 000	48 500	95 000	1 100	1 500
	310	70	70	53	3	2.5	760 000	1 370 000	77 500	139 000	1 000	1 400
	360	64	58	48	5	4	795 000	1 120 000	81 000	114 000	950	1 300
	360	104	98	82	5	4	1 210 000	1 920 000	123 000	196 000	950	1 300
	420	89	80	67	6	5	1 030 000	1 390 000	105 000	142 000	850	1 200
	420	89	80	56	6	5	965 000	1 330 000	98 500	136 000	750	1 000
	420	146	138	115	6	5	1 820 000	2 870 000	185 000	292 000	800	1 100
220	300	51	51	39	3	2.5	490 000	990 000	50 000	101 000	1 000	1 400
	340	76	76	57	4	3	885 000	1 610 000	90 500	164 000	950	1 300
	400	72	65	54	5	4	810 000	1 150 000	82 500	117 000	850	1 100
	400	114	108	90	5	4	1 340 000	2 210 000	137 000	225 000	850	1 100
	460	97	88	73	6	5	1 430 000	1 990 000	146 000	203 000	750	1 000
	460	154	145	122	6	5	2 020 000	3 200 000	206 000	325 000	750	1 000
240	320	51	51	39	3	2.5	500 000	1 040 000	51 000	107 000	950	1 300
	360	76	76	57	4	3	920 000	1 730 000	94 000	177 000	850	1 200
	440	79	72	60	5	4	990 000	1 400 000	101 000	142 000	750	1 000
	440	127	120	100	5	4	1 630 000	2 730 000	166 000	278 000	750	1 000
	500	105	95	80	6	5	1 660 000	2 340 000	169 000	238 000	670	950
	500	165	155	132	6	5	2 520 000	4 100 000	257 000	415 000	670	900

Rulman Numaraları	ISO355 Ebat Serisi yaklaşık	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni r_a maks.	Zarf r_a maks.	Etkili Yük Merkezleri (mm) a	Sabit e	Eksenel Yük Faktörleri Y_1	Y_0	Kütle (kg) yaklaşık
HR 32936 J	4DC	195	192	240	227	241	8	11	2	2	53.9	0.48	1.3	0.69	6.56
HR 32036 XJ	3FD	198	199	268	248	267	10	16	2.5	2	60.4	0.42	1.4	0.78	14.3
HR 30236 J	4GB	207	210	302	281	297	9	14	4	3	61.8	0.45	1.3	0.73	17.8
HR 32236 J	4GD	207	205	302	270	303	10	20	4	3	78.9	0.45	1.3	0.73	29.8
30336	—	207	233	362	324	345	10	19	4	3	72.5	0.36	1.7	0.92	39.3
30336 D	—	216	229	362	304	352	10	30	4	3	113.1	0.81	0.74	0.41	38.5
32336	—	212	225	362	310	353	10	28	4	3	96.6	0.37	1.6	0.88	66.8
HR 32938 J	4DC	205	201	250	237	251	8	11	2	2	55.3	0.48	1.3	0.69	6.83
HR 32038 XJ	4FD	208	209	278	258	279	10	16	2.5	2	63.4	0.44	1.4	0.75	14.9
HR 30238 J	4GB	217	223	322	302	318	9	14	4	3	65.6	0.44	1.4	0.76	21.4
HR 32238 J	4GD	217	216	322	290	323	10	22	4	3	80.5	0.44	1.4	0.76	35.2
30338	—	223	248	378	346	366	11	21	5	4	76.1	0.36	1.7	0.92	46
32338	—	229	243	378	332	375	11	31	5	4	102.7	0.37	1.6	0.88	78.9
32940	—	218	217	268	256	269	9	10	2.5	2	53.4	0.37	1.6	0.88	9.26
HR 32940 J	3EC	218	216	268	258	271	9	12	2.5	2	54.2	0.39	1.5	0.84	9.65
HR 32040 XJ	4FD	218	221	298	277	297	11	17	2.5	2	67.4	0.43	1.4	0.77	18.9
HR 30240 J	4GB	227	236	342	318	336	10	16	4	3	69.1	0.44	1.4	0.76	25.5
HR 32240 J	3GD	227	230	342	305	340	11	22	4	3	85.1	0.41	1.5	0.81	42.6
30340	—	233	253	398	346	368	11	22	5	4	81.4	0.37	1.6	0.88	52.3
30340 D	—	244	253	398	336	385	11	33	5	4	122.9	0.81	0.74	0.41	49.6
32340	—	239	253	398	346	392	11	31	5	4	106.7	0.37	1.6	0.88	90.9
HR 32944 J	3EC	238	235	288	278	293	9	12	2.5	2	59.2	0.43	1.4	0.78	10.3
HR 32044 XJ	4FD	241	244	326	303	326	12	19	3	2.5	73.6	0.43	1.4	0.77	24.4
30244	—	247	267	382	350	367	11	18	4	3	74.7	0.40	1.5	0.82	33.6
32244	—	247	260	382	340	377	12	24	4	3	93.0	0.40	1.5	0.82	57.4
30344	—	253	283	438	390	414	12	24	5	4	85.4	0.36	1.7	0.92	72.4
32344	—	259	274	438	372	421	12	32	5	4	114.9	0.37	1.6	0.88	114
HR 32948 J	4EC	258	255	308	297	314	9	12	2.5	2	65.1	0.46	1.3	0.72	11.1
HR 32048 XJ	4FD	261	262	346	321	346	12	19	3	2.5	79.1	0.46	1.3	0.72	26.2
30248	—	267	288	422	384	408	11	19	4	3	85.1	0.44	1.4	0.74	45.2
32248	—	267	285	422	374	416	12	27	4	3	102.5	0.40	1.5	0.82	78
30348	—	273	308	478	422	447	12	25	5	4	92.8	0.36	1.7	0.92	92.6
32348	—	279	301	478	410	464	12	33	5	4	123.2	0.37	1.6	0.88	145

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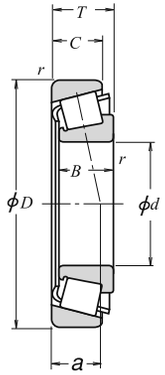
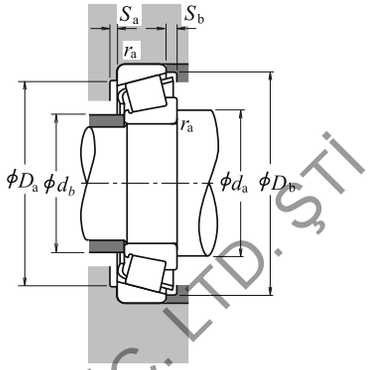
Delik Çapı 260 — 440 mm





Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	0	0.4	Y_1

Statik Eşdeğer Yük

$P_0 = 0.5F_r + Y_0F_a$

$F_r > 0.5F_r + Y_0F_a$, ise, $P_0 = F_r$

e, Y_1, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})	
d	D	T	B	C	Koni r min.	Zarf r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ
260	360	63.5	63.5	48	3	2.5	730 000	1 450 000	74 500	148 000	850	1 100
	400	87	87	65	5	4	1 160 000	2 160 000	118 000	220 000	800	1 100
	480	89	80	67	6	5	1 190 000	1 700 000	121 000	174 000	670	900
	480	137	130	106	6	5	1 900 000	3 300 000	194 000	335 000	670	950
	540	113	102	85	6	6	1 870 000	2 640 000	190 000	269 000	630	850
	540	176	165	136	6	6	2 910 000	4 800 000	297 000	490 000	630	850
280	380	63.5	63.5	48	3	2.5	765 000	1 580 000	78 000	162 000	800	1 100
	420	87	87	65	5	4	1 180 000	2 240 000	120 000	228 000	710	1 000
	500	89	80	67	6	5	1 240 000	1 900 000	127 000	194 000	630	850
	500	137	130	106	6	5	1 950 000	3 450 000	199 000	355 000	630	850
	580	187	175	145	6	6	3 300 000	5 400 000	335 000	550 000	560	800
300	420	76	72	62	4	3	895 000	1 820 000	91 000	186 000	710	950
	420	76	76	57	4	3	1 010 000	2 100 000	103 000	214 000	710	950
	460	100	100	74	5	4	1 440 000	2 700 000	147 000	275 000	670	900
	540	96	85	71	6	5	1 440 000	2 100 000	147 000	214 000	600	800
	540	149	140	115	6	5	2 220 000	3 700 000	226 000	380 000	600	800
320	440	76	72	63	4	3	900 000	1 880 000	92 000	192 000	970	900
	440	76	76	57	4	3	1 040 000	2 220 000	106 000	227 000	670	900
	480	100	100	74	5	4	1 510 000	2 910 000	153 000	297 000	630	850
	580	104	92	75	6	5	1 640 000	2 420 000	168 000	247 000	530	750
	580	159	150	125	6	5	2 860 000	5 050 000	292 000	515 000	530	750
	670	210	200	170	7.5	7.5	4 200 000	7 100 000	430 000	725 000	480	670
340	460	76	72	63	4	3	910 000	1 940 000	93 000	197 000	630	850
	460	76	76	57	4	3	1 050 000	2 220 000	107 000	226 000	630	850
	520	112	106	92	6	5	1 650 000	3 400 000	168 000	345 000	560	750
360	480	76	72	62	4	3	945 000	2 100 000	96 500	214 000	600	800
	480	76	76	57	4	3	1 080 000	2 340 000	110 000	239 000	560	800
	540	112	106	92	6	5	1 680 000	3 500 000	171 000	355 000	530	750
380	520	87	82	71	5	4	1 210 000	2 550 000	124 000	260 000	560	750
400	540	87	82	71	5	4	1 250 000	2 700 000	128 000	276 000	530	710
	600	125	118	100	6	5	1 960 000	4 050 000	200 000	415 000	480	670
420	560	87	82	72	5	4	1 300 000	2 810 000	132 000	287 000	500	670
	620	125	118	100	6	5	2 000 000	4 200 000	204 000	430 000	450	630
440	650	130	122	104	6	6	2 230 000	4 600 000	227 000	470 000	430	600

Rulman Numaraları	ISO355 Ebat Serisi yaklaşık	Dayanak ve Dolgu Ölçüleri (mm) d_a min.	d_b maks.	D_a maks.	D_a min.	D_b min.	S_a min.	S_b min.	Koni r_a maks.	Zarf r_a maks.	Etkili Yük Merkezleri (mm) a	Sabit e	Eksenel Yük Faktörleri Y_1	Y_0	Kütle (kg) yaklaşık
HR 32952 J	3EC	278	278	348	333	347	11	15.5	2.5	2	69.8	0.41	1.5	0.81	18.6
HR 32052 XJ	4FC	287	287	382	357	383	14	22	4	3	86.3	0.43	1.4	0.76	38.5
30252	—	293	316	458	421	447	12	22	5	4	94.6	0.44	1.4	0.74	60.7
32252	—	293	305	458	394	446	14	31	5	4	116.0	0.45	1.3	0.73	103
30352	—	293	336	512	460	487	16	28	5	5	101.6	0.36	1.7	0.92	114
32352	—	293	328	512	441	495	13	40	5	5	130.5	0.37	1.6	0.88	188
HR 32956 J	4EC	298	297	368	352	368	12	15.5	2.5	2	75.3	0.43	1.4	0.76	20
HR 32056 XJ	4FC	307	305	402	374	402	14	22	4	3	91.6	0.46	1.3	0.72	40.6
30256	—	313	339	478	436	462	12	22	5	4	98.5	0.44	1.4	0.74	66.3
32256	—	313	325	478	412	467	14	31	5	4	123.1	0.47	1.3	0.70	109
32356	—	319	353	552	475	532	14	42	5	5	139.6	0.37	1.6	0.89	224
32960	—	321	326	406	386	405	13	14	3	2.5	79.3	0.37	1.6	0.88	30.5
HR 32960 J	3FD	321	324	406	387	405	13	19	3	2.5	79.9	0.39	1.5	0.84	31.4
HR 32060 XJ	4GD	327	330	442	408	439	15	26	4	3	98.4	0.43	1.4	0.76	56.6
30260	—	333	355	518	470	499	14	25	5	4	105.1	0.44	1.4	0.74	80.6
32260	—	333	352	518	458	514	15	34	5	4	131.7	0.46	1.3	0.72	132
32964	—	341	345	426	404	425	13	13	3	2.5	84.3	0.39	1.5	0.84	32
HR 32964 J	3FD	341	344	426	406	426	13	19	3	2.5	85.0	0.42	1.4	0.79	33.3
HR 32064 XJ	4GD	347	350	462	430	461	15	26	4	3	104.5	0.46	1.3	0.72	60
30264	—	353	381	558	503	533	14	29	5	4	113.7	0.44	1.4	0.74	99.3
32264	—	353	383	558	487	550	15	34	5	4	141.7	0.46	1.3	0.72	175
32364	—	383	412	634	547	616	14	42	6	6	157.5	0.37	1.6	0.88	343
32968	—	361	364	446	426	446	13	13	3	2.5	89.2	0.41	1.5	0.80	33.6
HR 32968 J	4FD	361	362	446	427	446	13	19	3	2.5	91.0	0.44	1.4	0.75	34.3
32068	—	373	386	498	464	496	3.5	22	5	4	104.5	0.37	1.6	0.89	83.7
32972	—	381	386	466	445	465	14	14	3	2.5	91.4	0.40	1.5	0.82	35.8
HR 32972 J	4FD	381	381	466	445	466	13	19	3	2.5	96.8	0.46	1.3	0.72	36.1
32072	—	393	402	518	480	514	5.5	22	5	4	108.6	0.38	1.6	0.86	86.5
32976	—	407	406	502	478	501	16	16	4	3	95.2	0.39	1.6	0.86	49.5
32980	—	427	428	522	499	524	16	16	4	3	100.8	0.40	1.5	0.82	52.7
32080	—	433	443	578	533	565	5	25	5	4	115.3	0.36	1.7	0.92	116
32984	—	447	448	542	521	544	3.5	15	4	3	106.1	0.41	1.5	0.81	54.8
32084	—	453	463	598	552	586	6.5	25	5	4	120.0	0.37	1.6	0.88	121
32088	—	473	487	622	582	616	5	26	5	5	126.3	0.36	1.7	0.92	136

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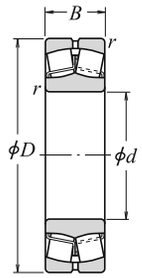
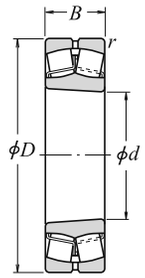
Delik Çapı 20 – 55 mm

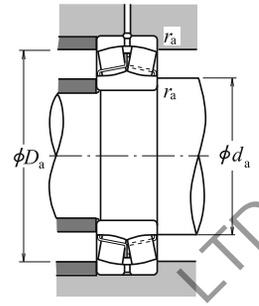


Silindirik Delik



Konik Delik

Yağ Kanalı veya Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak $^{-1}$)		Rulman	Numaraları	Dayanak ve Dolgu Ölçüleri (mm)					Sabit	Eksenel Yük Faktörler			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik	Konik Delik(1)	d_a min.	d_a maks.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
20	52	15	1.1	29 300	26 900	2 980	2 740	6 300	8 200	**21304CDE4**	**21304CDKE4**	27	28	45	42	1	0.31	3.2	2.1	2.1	0.17
25	52	18	1	37 500	37 000	3 850	3 800	7 100	9 000	**22205CE4**	**22205CKE4**	31	31	46	45	1	0.35	2.9	1.9	1.9	0.17
	62	17	1.1	43 000	40 500	4 350	4 150	5 300	6 700	**21305CDE4**	**21305CDKE4**	32	34	55	51	1	0.29	3.4	2.3	2.3	0.26
30	62	20	1	50 000	50 000	5 100	5 100	6 000	7 500	**22206CE4**	**22206CKE4**	36	37	56	54	1	0.33	3.1	2.1	2.0	0.27
	72	19	1.1	55 000	54 000	5 600	5 500	4 500	6 000	**21306CDE4**	**21306CDKE4**	37	40	65	59	1	0.28	3.6	2.4	2.3	0.39
35	72	23	1.1	69 000	71 000	7 050	7 200	5 300	6 700	**22207CE4**	**22207CKE4**	42	43	65	63	1	0.32	3.1	2.1	2.0	0.42
	80	21	1.5	71 500	76 000	7 250	7 750	4 000	5 300	**21307CDE4**	**21307CDKE4**	44	47	71	67	1.5	0.28	3.6	2.4	2.4	0.53
40	80	23	1.1	113 000	99 500	11 500	10 100	6 700	8 500	***22208EAE4**	***22208EAKE4**	47	49	73	70	1	0.28	3.6	2.4	2.4	0.50
	90	23	1.5	118 000	111 000	12 000	11 300	6 000	7 500	***21308EAE4**	***21308EAKE4**	49	54	81	75	1.5	0.25	3.9	2.7	2.6	0.73
	90	33	1.5	170 000	153 000	17 300	15 600	5 300	6 700	***22308EAE4**	***22308EAKE4**	49	52	81	77	1.5	0.35	2.8	1.9	1.9	0.98
45	85	23	1.1	118 000	111 000	12 000	11 300	6 000	7 500	***22209EAE4**	***22209EAKE4**	52	54	78	75	1	0.25	3.9	2.7	2.6	0.55
	100	25	1.5	149 000	144 000	15 200	14 600	5 000	6 300	***21309EAE4**	***21309EAKE4**	54	65	91	89	1.5	0.23	4.3	2.9	2.8	0.96
	100	36	1.5	207 000	195 000	21 100	19 900	4 500	5 600	***22309EAE4**	***22309EAKE4**	54	59	91	86	1.5	0.34	2.9	2.0	1.9	1.34
50	90	23	1.1	124 000	119 000	12 600	12 100	5 600	7 100	***22210EAE4**	***22210EAKE4**	57	60	83	81	1	0.24	4.3	2.9	2.8	0.61
	110	27	2	178 000	174 000	18 100	17 800	4 500	5 600	***21310EAE4**	***21310EAKE4**	60	72	100	98	2	0.23	4.4	3.0	2.9	1.21
	110	40	2	246 000	234 000	25 100	23 900	4 300	5 300	***22310EAE4**	***22310EAKE4**	60	64	100	93	2	0.35	2.8	1.9	1.9	1.78
55	100	25	1.5	149 000	144 000	15 200	14 600	5 300	6 700	***22211EAE4**	***22211EAKE4**	64	65	91	89	1.5	0.23	4.3	2.9	2.8	0.81
	120	29	2	178 000	174 000	18 100	17 800	4 500	5 600	***21311EAE4**	***21311EAKE4**	65	72	110	98	2	0.23	4.4	3.0	2.9	1.58
	120	43	2	292 000	292 000	29 800	29 800	3 800	4 800	***22311EAE4**	***22311EAKE4**	65	73	110	103	2	0.34	2.9	2.0	1.9	2.3

Not (1) K soneki, konik delikli (konik 1 : 12) rulmanları temsil eder.

Notlar
1. (*) ile işaretlenen rulmanlar HPS serisi rulmanlardır ve yağ kanalları ile delikler bu rulmanlar için standarttır.
2. NSK Bilyalı Rulmanlar Katalogu'nun A84 sayfasında tavsiye edilen yerleştirme tipi seçimi yaparken (Mil Toleransı), HPS serisi rulmanları için koşulların farklı olduğunu unutmayınız.
   Sınıflandırma şöyledir: Hafif Yükler ($\leq 0.05C_r$); Normal Yükler (0.05 - 0.10C_r); Ağır Yükler (>0.10C_r).
3. Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B358 – B359** ve **B366**'ya bakınız.

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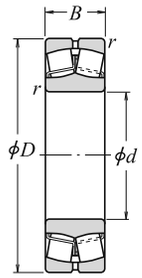
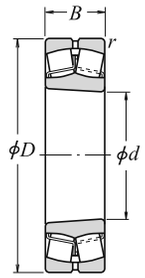
Delik Çapı 60 – 85 mm

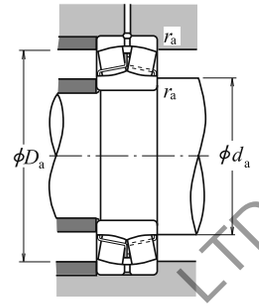


Silindirik Delik



Konik Delik

Yağ Kanalı veya Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman	Numaraları	Dayanak ve Dolgu Ölçüleri (mm)					Sabit	Eksenel Yük Faktörler			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik	Konik Delik(1)	d_a min.	d_a maks.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
60	95	26	1.1	98 500	141 000	10 000	14 400	3 600	4 500	**23012CE4**	**23012CKE4**	67	68	88	85	1	0.26	3.9	2.6	2.5	0.68
	110	28	1.5	178 000	174 000	18 100	17 800	4 800	6 000	***22212EAE4**	***22212EAKE4**	69	72	101	98	1.5	0.23	4.4	3.0	2.9	1.1
	130	31	2.1	238 000	244 000	24 200	24 900	3 800	4 800	***21312EAE4**	***21312EAKE4**	72	87	118	117	2	0.22	4.5	3.0	3.0	1.98
	130	46	2.1	340 000	340 000	34 500	35 000	3 600	4 500	***22312EAE4**	***22312EAKE4**	72	79	118	111	2	0.34	3.0	2.0	1.9	2.89
65	120	31	1.5	221 000	230 000	22 500	23 500	4 300	5 300	***22213EAE4**	***22213EAKE4**	74	80	111	107	1.5	0.24	4.2	2.8	2.7	1.51
	140	33	2.1	264 000	275 000	27 000	28 000	3 600	4 500	***21313EAE4**	***21313EAKE4**	77	94	128	126	2	0.22	4.6	3.1	3.0	2.45
	140	48	2.1	375 000	380 000	38 000	38 500	3 200	4 000	***22313EAE4**	***22313EAKE4**	77	84	128	119	2	0.33	3.0	2.0	2.0	3.52
70	125	31	1.5	225 000	232 000	22 900	23 600	4 000	5 300	***22214EAE4**	***22214EAKE4**	79	84	116	111	1.5	0.23	4.3	2.9	2.8	1.58
	150	35	2.1	310 000	325 000	32 000	33 500	3 200	4 000	***21314EAE4**	***21314EAKE4**	82	101	138	135	2	0.22	4.6	3.1	3.0	3.0
	150	51	2.1	425 000	435 000	43 500	44 000	3 000	3 800	***22314EAE4**	***22314EAKE4**	82	91	138	129	2	0.33	3.0	2.0	2.0	4.28
75	130	31	1.5	238 000	244 000	24 200	24 900	4 000	5 000	***22215EAE4**	***22215EAKE4**	84	87	121	117	1.5	0.22	4.5	3.0	3.0	1.64
	160	37	2.1	310 000	325 000	32 000	33 500	3 200	4 000	***21315EAE4**	***21315EAKE4**	87	101	148	134	2	0.22	4.6	3.1	3.0	3.64
	160	55	2.1	485 000	505 000	49 500	51 500	2 800	3 600	***22315EAE4**	***22315EAKE4**	87	97	148	137	2	0.33	3.0	2.0	2.0	5.26
80	140	33	2	264 000	275 000	27 000	28 000	3 600	4 500	***22216EAE4**	***22216EAKE4**	90	94	130	126	2	0.22	4.6	3.1	3.0	2.01
	170	39	2.1	355 000	375 000	36 000	38 000	3 000	3 800	***21316EAE4**	***21316EAKE4**	92	109	158	146	2	0.23	4.4	3.0	2.9	4.32
	170	58	2.1	540 000	565 000	55 000	58 000	2 600	3 400	***22316EAE4**	***22316EAKE4**	92	103	158	145	2	0.33	3.0	2.0	2.0	6.23
85	150	36	2	310 000	325 000	32 000	33 500	3 400	4 300	***22217EAE4**	***22217EAKE4**	95	101	140	135	2	0.22	4.6	3.1	3.0	2.54
	180	41	3	360 000	395 000	37 000	40 000	3 000	4 000	***21317EAE4**	***21317EAKE4**	99	108	166	142	2.5	0.24	4.3	2.9	2.8	5.2
	180	60	3	600 000	630 000	61 000	64 000	2 400	3 200	***22317EAE4**	***22317EAKE4**	99	110	166	155	2.5	0.33	3.1	2.1	2.0	7.23

Not (1) K soneki, konik delikli (konik 1 : 12) rulmanları temsil eder.

Notlar
1. (*) ile işaretlenen rulmanlar HPS serisi rulmanlardır ve yağ kanalları ile delikler bu rulmanlar için standarttır.
2. NSK Bilyalı Rulmanlar Katalogu'nun A84 sayfasında tavsiye edilen yerleştirme tipi seçimi yaparken (Mil Toleransı), HPS serisi rulmanları için koşulların farklı olduğunu unutmayınız.
   Sınıflandırma şöyledir: Hafif Yükler ($\leq 0.05C_r$); Normal Yükler (0.05 - 0.10C_r); Ağır Yükler (>0.10C_r).
3. Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B359 – B361** ve **B366**'ya bakınız.

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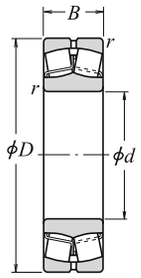
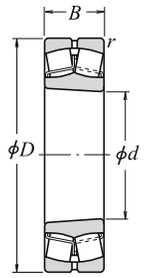
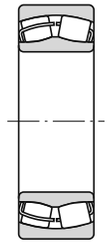
Delik Çapı 90 – 110 mm



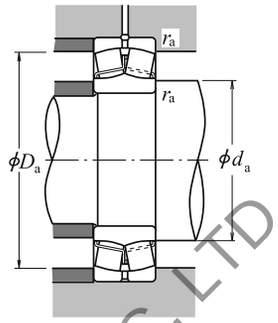
Silindirik Delik



Konik Delik



Yağ Kanalı veya Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leqq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman	Numaraları	Dayanak ve Dolgu Ölçüleri (mm)					Sabit	Eksenel Yük Faktörler			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik	Konik Delik(1)	d_a min.	d_a maks.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
90	160	40	2	360 000	395 000	37 000	40 000	3 200	4 000	***22218EAE4**	***22218EAKE4**	100	108	150	142	2	0.24	4.3	2.9	2.8	3.3
	160	52.4	2	340 000	490 000	34 500	50 000	1 800	2 400	**23218CE4**	**23218CKE4**	100	105	150	138	2	0.32	3.2	2.1	2.1	4.51
	190	43	3	415 000	450 000	42 000	46 000	2 800	3 600	***21318EAE4**	***21318EAKE4**	104	115	176	152	2.5	0.24	4.3	2.9	2.8	6.1
	190	64	3	665 000	705 000	68 000	72 000	2 400	3 000	***22318EAE4**	***22318EAKE4**	104	115	176	163	2.5	0.33	3.1	2.1	2.0	8.56
95	170	43	2.1	415 000	450 000	42 000	46 000	3 000	3 800	***22219EAE4**	***22219EAKE4**	107	115	158	152	2	0.24	4.3	2.9	2.8	4.04
	170	55.6	2.1	370 000	525 000	37 500	53 500	1 700	2 200	**23219CAE4**	**23219CAKE4**	107	—	158	146	2	0.32	3.1	2.1	2.0	5.33
	200	45	3	345 000	435 000	35 000	44 500	1 500	2 000	**21319CE4**	**21319CKE4**	109	127	186	172	2.5	0.22	4.6	3.1	3.0	6.92
	200	67	3	735 000	780 000	75 000	79 500	2 200	2 800	***22319EAE4**	***22319EAKE4**	109	121	186	172	2.5	0.33	3.1	2.1	2.0	9.91
100	150	37	1.5	212 000	335 000	21 600	34 500	2 200	2 800	**23020CDE4**	**23020CDKE4**	109	112	141	136	1.5	0.22	4.6	3.1	3.0	2.31
	150	50	1.5	276 000	470 000	28 100	48 000	1 800	2 400	**24020CE4**	**24020CK30E4**	109	110	141	132	1.5	0.30	3.4	2.3	2.2	3.08
	165	52	2	345 000	530 000	35 500	54 000	1 700	2 200	**23120CE4**	**23120CKE4**	110	113	155	144	2	0.30	3.4	2.3	2.2	4.38
	165	65	2	345 000	535 000	35 000	55 000	1 700	2 200	**24120CAE4**	**24120CAK30E4**	110	—	155	143	2	0.35	2.9	1.9	1.9	5.42
	180	46	2.1	455 000	490 000	46 500	50 000	2 800	3 600	***22220EAE4**	***22220EAKE4**	112	119	168	160	2	0.24	4.3	2.9	2.8	4.84
	180	60.3	2.1	420 000	605 000	42 500	61 500	1 600	2 200	**23220CE4**	**23220CKE4**	112	118	168	155	2	0.32	3.2	2.1	2.1	6.6
	215	47	3	395 000	485 000	40 500	49 500	1 400	1 900	**21320CE4**	**21320CKE4**	114	133	201	184	2.5	0.21	4.7	3.2	3.1	8.46
	215	73	3	860 000	930 000	88 000	94 500	2 000	2 600	***22320EAE4**	***22320EAKE4**	114	130	201	184	2.5	0.33	3.0	2.0	2.0	12.7
110	170	45	2	293 000	465 000	29 900	47 500	2 000	2 400	**23022CDE4**	**23022CDKE4**	120	124	160	153	2	0.24	4.2	2.8	2.8	3.76
	170	60	2	380 000	645 000	38 500	66 000	1 600	2 200	**24022CE4**	**24022CK30E4**	120	121	160	148	2	0.32	3.1	2.1	2.1	4.96
	180	56	2	385 000	630 000	39 500	64 000	1 600	2 000	**23122CE4**	**23122CKE4**	120	127	170	158	2	0.28	3.5	2.4	2.3	5.7
	180	69	2	460 000	750 000	47 000	76 500	1 600	2 000	**24122CE4**	**24122CK30E4**	120	123	170	154	2	0.36	2.8	1.9	1.8	6.84
	200	53	2.1	605 000	645 000	61 500	66 000	2 600	3 200	***22222EAE4**	***22222EAKE4**	122	129	188	178	2	0.25	4.0	2.7	2.6	6.99
	200	69.8	2.1	515 000	760 000	52 500	77 500	1 500	1 900	**23222CE4**	**23222CKE4**	122	130	188	170	2	0.34	3.0	2.0	1.9	9.54
	240	50	3	450 000	545 000	46 000	55 500	1 300	1 700	**21322CAE4**	**21322CAKE4**	124	—	226	206	2.5	0.22	4.6	3.1	3.0	11.2
	240	80	3	1030 000	1 120 000	105 000	115 000	1 900	2 400	***22322EAE4**	***22322EAKE4**	124	145	226	206	2.5	0.33	3.1	2.1	2.0	17.6

Not (1) K veya K30 soneki, konik delikli (konik 1 : 12 veya 1 : 30) rulmanları temsil eder.

Notlar
1. (*) ile işaretlenen rulmanlar HPS serisi rulmanlardır ve yağ kanalları ile delikler bu rulmanlar için standarttır.
2. NSK Bilyalı Rulmanlar Katalogu'nun A84 sayfasında tavsiye edilen montaj tipi seçimi yaparken (Mil Toleransı), HPS serisi rulmanları için koşulların farklı olduğunu unutmayınız.
   Sınıflandırma şöyledir: Hafif Yükler (≤0.05C_r); Normal Yükler (0.05 - 0.10C_r); Ağır Yükler (>0.10C_r).
3. Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B360 — B361** ve **B366 — B367**'ye bakınız.

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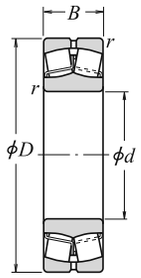
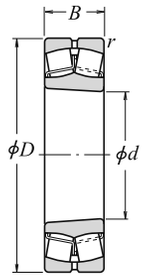
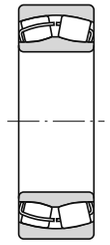
Delik Çapı 120 – 150 mm



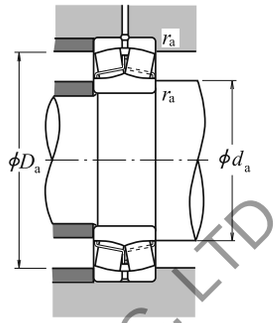
Silindirik Delik



Konik Delik



Yağ Kanalı veya Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman	Numaraları	Dayanak ve Dolgu Ölçüleri (mm)					Sabit	Eksenel Yük Faktörler			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik	Konik Delik(1)	d_a min.	d_a maks.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
120	180	46	2	315 000	525 000	32 000	53 500	1 800	2 200	**23024CDE4**	**23024CDKE4**	130	134	170	163	2	0.22	4.5	3.0	2.9	4.11
	180	60	2	395 000	705 000	40 500	72 000	1 500	2 000	**24024CE4**	**24024CK30E4**	130	131	170	158	2	0.32	3.2	2.1	2.1	5.33
	200	62	2	465 000	720 000	47 500	73 500	1 400	1 800	**23124CE4**	**23124CKE4**	130	138	190	175	2	0.29	3.5	2.4	2.3	7.85
	200	80	2	575 000	950 000	58 500	96 500	1 400	1 800	**24124CE4**	**24124CK30E4**	130	136	190	171	2	0.37	2.7	1.8	1.8	10
	215	58	2.1	685 000	765 000	70 000	78 000	2 400	3 000	***22224EAE4**	***22224EAKE4**	132	142	203	190	2	0.25	3.9	2.7	2.6	8.8
	215	76	2.1	630 000	970 000	64 500	99 000	1 300	1 700	**23224CE4**	**23224CKE4**	132	140	203	182	2	0.34	2.9	2.0	1.9	12.1
	260	86	3	1190 000	1 320 000	122 000	134 000	1 700	2 200	***22324EAE4**	***22324EAKE4**	134	157	246	222	2.5	0.32	3.1	2.1	2.0	22.2
130	200	52	2	400 000	655 000	40 500	67 000	1 700	2 000	**23026CDE4**	**23026CDKE4**	140	147	190	180	2	0.23	4.3	2.9	2.8	5.98
	200	69	2	495 000	865 000	50 500	88 000	1 400	1 800	**24026CE4**	**24026CK30E4**	140	143	190	175	2	0.31	3.2	2.2	2.1	7.84
	210	64	2	505 000	825 000	51 500	84 500	1 300	1 700	**23126CE4**	**23126CKE4**	140	149	200	184	2	0.28	3.6	2.4	2.4	8.69
	210	80	2	590 000	1 010 000	60 000	103 000	1 300	1 700	**24126CE4**	**24126CK30E4**	140	146	200	180	2	0.35	2.9	1.9	1.9	10.7
	230	64	3	820 000	940 000	83 500	96 000	2 200	2 600	***22226EAE4**	***22226EAKE4**	144	152	216	204	2.5	0.26	3.8	2.6	2.5	11
	230	80	3	700 000	1 080 000	71 500	110 000	1 200	1 600	**23226CE4**	**23226CKE4**	144	150	216	196	2.5	0.34	2.9	2.0	1.9	14.3
	280	93	4	995 000	1 350 000	101 000	137 000	1 300	1 600	**22326CE4**	**22326CKE4**	148	166	262	236	3	0.34	2.9	2.0	1.9	28.1
140	210	53	2	420 000	715 000	43 000	73 000	1 600	1 900	**23028CDE4**	**23028CDKE4**	150	157	200	190	2	0.22	4.5	3.0	2.9	6.49
	210	69	2	525 000	945 000	53 500	96 500	1 300	1 700	**24028CE4**	**24028CK30E4**	150	154	200	186	2	0.29	3.4	2.3	2.2	8.37
	225	68	2.1	580 000	945 000	59 000	96 500	1 200	1 600	**23128CE4**	**23128CKE4**	152	158	213	198	2	0.28	3.6	2.4	2.3	10.5
	225	85	2.1	670 000	1 160 000	68 500	118 000	1 200	1 600	**24128CE4**	**24128CK30E4**	152	156	213	193	2	0.35	2.9	1.9	1.9	13
	250	68	3	645 000	930 000	65 500	95 000	1 400	1 700	**22228CDE4**	**22228CDKE4**	154	167	236	219	2.5	0.25	4.0	2.7	2.6	14.5
	250	88	3	835 000	1 300 000	85 000	133 000	1 100	1 500	**23228CE4**	**23228CKE4**	154	163	236	213	2.5	0.35	2.9	1.9	1.9	18.8
	300	102	4	1 160 000	1 590 000	118 000	162 000	1 200	1 500	**22328CE4**	**22328CKE4**	158	177	282	253	3	0.35	2.9	1.9	1.9	35.4
150	225	56	2.1	470 000	815 000	48 000	83 000	1 400	1 800	**23030CDE4**	**23030CDKE4**	162	168	213	203	2	0.22	4.6	3.1	3.0	7.9
	225	75	2.1	590 000	1 090 000	60 500	111 000	1 200	1 500	**24030CE4**	**24030CK30E4**	162	165	213	198	2	0.30	3.4	2.3	2.2	10.5
	250	80	2.1	725 000	1 180 000	74 000	121 000	1 100	1 400	**23130CE4**	**23130CKE4**	162	174	238	218	2	0.30	3.4	2.3	2.2	15.8
	250	100	2.1	890 000	1 530 000	91 000	156 000	1 100	1 400	**24130CE4**	**24130CK30E4**	162	169	238	212	2	0.38	2.6	1.8	1.7	19.8
	270	73	3	765 000	1 120 000	78 000	114 000	1 300	1 600	**22230CDE4**	**22230CDKE4**	164	179	256	236	2.5	0.26	3.9	2.6	2.5	18.4
	270	96	3	975 000	1 560 000	99 500	159 000	1 100	1 400	**23230CE4**	**23230CKE4**	164	176	256	230	2.5	0.35	2.9	1.9	1.9	24.2
	320	108	4	1 220 000	1 690 000	125 000	172 000	1 100	1 400	**22330CAE4**	**22330CAKE4**	168	—	302	270	3	0.35	2.9	1.9	1.9	41.5

Not (1) K veya K30 soneki, konik delikli (konik 1 : 12 veya 1 : 30) rulmanları temsil eder.

Notlar
1. (*) ile işaretlenen rulmanlar HPS serisi rulmanlardır ve yağ kanalları ile delikler bu rulmanlar için standarttır.
2. NSK Bilyalı Rulmanlar Katalogu'nun A84 sayfasında tavsiye edilen montaj tipi seçimi yaparken (Mil Toleransı), HPS serisi rulmanları için koşulların farklı olduğunu unutmayınız.
   Sınıflandırma şöyledir: Hafif Yükler (≤0.05C_r); Normal Yükler (0.05 - 0.10C_r); Ağır Yükler (>0.10C_r).
3. Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B361 — B362** ve **B367 — B368**'e bakınız.

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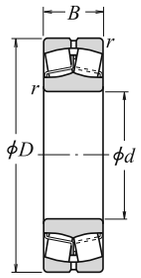
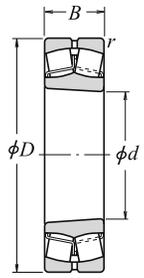
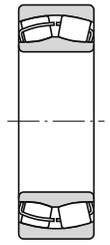
Delik Çapı 160 – 190 mm



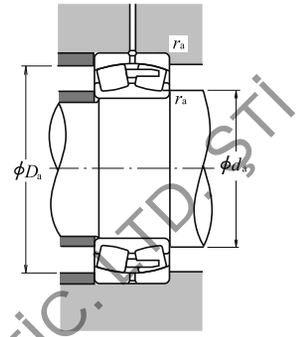
Silindirik Delik



Konik Delik



Yağ Kanalı ve Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leqq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman	Numaraları	Dayanak ve Dolgu Ölçüleri (mm)					Sabit	Eksenel Yük Faktörler			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik	Konik Delik(1)	d_a min.	d_a maks.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
160	220	45	2	360 000	675 000	37 000	69 000	1 400	1 800	**23932CAE4**	**23932CAKE4**	170	—	210	203	2	0.18	5.6	3.8	3.7	4.97
	240	60	2.1	540 000	955 000	55 000	97 500	1 300	1 700	**23032CDE4**	**23032CDKE4**	172	179	228	216	2	0.22	4.5	3.0	2.9	9.66
	240	80	2.1	680 000	1 260 000	69 000	128 000	1 100	1 400	**24032CE4**	**24032CK30E4**	172	177	228	212	2	0.30	3.4	2.3	2.2	12.7
	270	86	2.1	855 000	1 400 000	87 000	143 000	1 000	1 300	**23132CE4**	**23132CKE4**	172	185	258	234	2	0.30	3.4	2.3	2.2	20.3
	270	109	2.1	1 040 000	1 760 000	106 000	179 000	1 000	1 300	**24132CE4**	**24132CK30E4**	172	179	258	229	2	0.39	2.6	1.7	1.7	25.4
	290	80	3	910 000	1 320 000	93 000	135 000	1 200	1 500	**22232CDE4**	**22232CDKE4**	174	190	276	255	2.5	0.26	3.8	2.6	2.5	23.1
	290	104	3	1 100 000	1 770 000	112 000	180 000	1 000	1 300	**23232CE4**	**23232CKE4**	174	189	276	245	2.5	0.34	2.9	2.0	1.9	30.5
	340	114	4	1 360 000	1 900 000	139 000	193 000	1 100	1 300	**22332CAE4**	**22332CAKE4**	178	—	322	287	3	0.35	2.9	1.9	1.9	49.3
170	230	45	2	350 000	660 000	35 500	67 500	1 400	1 800	**23934BCAE4**	**23934BCAKE4**	180	—	220	213	2	0.17	5.8	3.9	3.8	5.38
	260	67	2.1	640 000	1 090 000	65 000	112 000	1 200	1 600	**23034CDE4**	**23034CDKE4**	182	191	248	233	2	0.23	4.3	2.9	2.8	13
	260	90	2.1	825 000	1 520 000	84 000	155 000	1 000	1 300	**24034CE4**	**24034CK30E4**	182	188	248	228	2	0.31	3.2	2.2	2.1	17.3
	280	88	2.1	940 000	1 570 000	96 000	160 000	1 000	1 300	**23134CE4**	**23134CKE4**	182	194	268	245	2	0.29	3.5	2.3	2.3	21.8
	280	109	2.1	1 080 000	1 860 000	110 000	190 000	1 000	1 300	**24134CE4**	**24134CK30E4**	182	190	268	239	2	0.37	2.7	1.8	1.8	26.6
	310	86	4	990 000	1 500 000	101 000	153 000	1 100	1 400	**22234CDE4**	**22234CDKE4**	188	206	292	270	3	0.26	3.8	2.6	2.5	28.8
	310	110	4	1 200 000	1 910 000	122 000	195 000	900	1 200	**23234CE4**	**23234CKE4**	188	201	292	261	3	0.34	2.9	2.0	1.9	36.4
	360	120	4	1 580 000	2 110 000	161 000	215 000	1 000	1 200	**22334CAE4**	**22334CAKE4**	188	—	342	304	3	0.35	2.9	1.9	1.9	57.9
180	250	52	2	470 000	890 000	48 000	90 500	1 200	1 600	**23936CAE4**	**23936CAKE4**	190	—	240	230	2	0.18	5.5	3.7	3.6	7.64
	280	74	2.1	750 000	1 270 000	76 000	129 000	1 200	1 400	**23036CDE4**	**23036CDKE4**	192	202	268	249	2	0.24	4.2	2.8	2.8	17.1
	280	100	2.1	965 000	1 750 000	98 500	178 000	950	1 200	**24036CE4**	**24036CK30E4**	192	200	268	245	2	0.32	3.1	2.1	2.0	22.7
	300	96	3	1 050 000	1 760 000	108 000	180 000	900	1 200	**23136CE4**	**23136CKE4**	194	206	286	260	2.5	0.30	3.4	2.3	2.2	27.5
	300	118	3	1 190 000	2 040 000	121 000	208 000	900	1 200	**24136CE4**	**24136CK30E4**	194	202	286	255	2.5	0.37	2.7	1.8	1.8	33.1
	320	86	4	1 020 000	1 540 000	104 000	157 000	1 100	1 300	**22236CDE4**	**22236CDKE4**	198	212	302	278	3	0.26	3.9	2.6	2.6	30.2
	320	112	4	1 300 000	2 110 000	133 000	215 000	850	1 100	**23236CE4**	**23236CKE4**	198	211	302	274	3	0.33	3.0	2.0	2.0	38.9
	380	126	4	1 740 000	2 340 000	177 000	238 000	950	1 200	**22336CAE4**	**22336CAKE4**	198	—	362	322	3	0.34	2.9	2.0	1.9	67
190	260	52	2	460 000	875 000	47 000	89 500	1 200	1 500	**23938CAE4**	**23938CAKE4**	200	—	250	240	2	0.18	5.7	3.8	3.7	8.03
	290	75	2.1	775 000	1 350 000	79 000	138 000	1 100	1 400	**23038CAE4**	**23038CAKE4**	202	—	278	261	2	0.24	4.2	2.8	2.8	17.6
	290	100	2.1	975 000	1 840 000	99 500	188 000	900	1 200	**24038CE4**	**24038CK30E4**	202	210	278	253	2	0.31	3.2	2.2	2.1	24
	320	104	3	1 190 000	2 020 000	121 000	206 000	850	1 100	**23138CE4**	**23138CKE4**	204	219	306	276	2.5	0.31	3.3	2.2	2.2	34.5
	320	128	3	1 370 000	2 330 000	140 000	238 000	850	1 100	**24138CE4**	**24138CK30E4**	204	211	306	269	2.5	0.40	2.5	1.7	1.6	41.5
	340	92	4	1 140 000	1 730 000	116 000	176 000	1 000	1 200	**22238CAE4**	**22238CAKE4**	208	—	322	296	3	0.26	3.8	2.6	2.5	35.5
	340	120	4	1 440 000	2 350 000	147 000	240 000	800	1 100	**23238CE4**	**23238CKE4**	208	222	322	288	3	0.35	2.9	1.9	1.9	47.6
	400	132	5	1 890 000	2 590 000	193 000	264 000	900	1 100	**22338CAE4**	**22338CAKE4**	212	—	378	338	4	0.34	2.9	2.0	1.9	77.6

Not (1) K veya K30 soneki, konik delikli (konik 1 : 12 veya 1 : 30) rulmanları temsil eder.

Not Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B362** ve **B368**'a bakınız.

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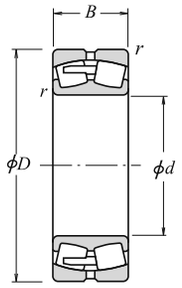
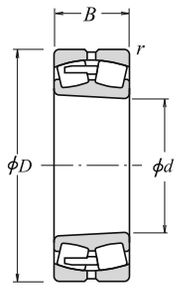
Delik Çapı 200 – 260 mm

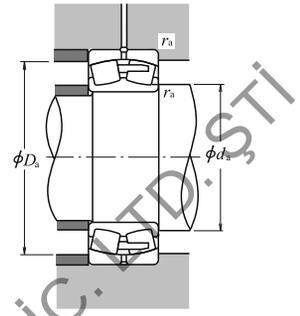


Silindirik Delik



Konik Delik

Yağ Kanalı ve Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leqq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman	Numaraları	Dayanak ve Dolgu Ölçüleri (mm)					Sabit	Eksenel Yük Faktörler			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik	Konik Delik(1)	d_a min.	d_a maks.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
200	280	60	2.1	570 000	1 060 000	58 000	108 000	1 100	1 400	**23940CAE4**	**23940CAKE4**	212	—	268	258	2	0.20	5.1	3.4	3.3	11
	310	82	2.1	940 000	1 700 000	96 000	174 000	1 000	1 300	**23040CAE4**	**23040CAKE4**	212	—	298	279	2	0.25	4.0	2.7	2.6	22.6
	310	109	2.1	1 140 000	2 120 000	116 000	216 000	850	1 100	**24040CE4**	**24040CK30E4**	212	223	298	271	2	0.32	3.1	2.1	2.0	30.4
	340	112	3	1 360 000	2 330 000	139 000	238 000	800	1 000	**23140CE4**	**23140CKE4**	214	232	326	293	2.5	0.31	3.2	2.2	2.1	42.7
	340	140	3	1 570 000	2 670 000	160 000	272 000	800	1 000	**24140CE4**	**24140CK30E4**	214	226	326	290	2.5	0.39	2.6	1.8	1.7	51.3
	360	98	4	1 300 000	2 010 000	133 000	204 000	950	1 200	**22240CAE4**	**22240CAKE4**	218	—	342	315	3	0.26	3.8	2.6	2.5	42.6
	360	128	4	1 660 000	2 750 000	169 000	281 000	750	1 000	**23240CE4**	**23240CKE4**	218	237	342	307	3	0.34	2.9	2.0	1.9	57.1
	420	138	5	2 000 000	2 990 000	204 000	305 000	850	1 000	**22340CAE4**	**22340CAKE4**	222	—	398	352	4	0.34	2.9	2.0	1.9	92.6
220	300	60	2.1	625 000	1 240 000	64 000	126 000	1 000	1 300	**23944CAE4**	**23944CAKE4**	232	—	288	278	2	0.18	5.7	3.8	3.7	12.2
	340	90	3	1 090 000	1 980 000	111 000	202 000	950	1 200	**23044CAE4**	**23044CAKE4**	234	—	326	302	2.5	0.24	4.1	2.8	2.7	29.7
	340	118	3	1 360 000	2 600 000	138 000	265 000	750	1 000	**24044CE4**	**24044CK30E4**	234	244	326	296	2.5	0.31	3.2	2.1	2.1	40.5
	370	120	4	1 570 000	2 710 000	160 000	276 000	710	950	**23144CE4**	**23144CKE4**	238	254	352	320	3	0.30	3.3	2.2	2.2	53
	370	150	4	1 800 000	3 200 000	183 000	325 000	710	950	**24144CE4**	**24144CK30E4**	238	248	352	313	3	0.39	2.6	1.7	1.7	66.7
	400	108	4	1 570 000	2 430 000	160 000	247 000	850	1 000	**22244CAE4**	**22244CAKE4**	238	—	382	348	3	0.27	3.7	2.5	2.4	59
	400	144	4	2 020 000	3 400 000	206 000	350 000	670	900	**23244CE4**	**23244CKE4**	238	260	382	337	3	0.35	2.9	1.9	1.9	80.4
	460	145	5	2 350 000	3 400 000	240 000	345 000	750	950	**22344CAE4**	**22344CAKE4**	242	—	438	391	4	0.33	3.0	2.0	2.0	116
240	320	60	2.1	635 000	1 300 000	65 000	133 000	950	1 200	**23948CAE4**	**23948CAKE4**	252	—	308	298	2	0.17	6.0	4.0	3.9	13.3
	360	92	3	1 160 000	2 140 000	118 000	218 000	850	1 100	**23048CAE4**	**23048CAKE4**	254	—	346	324	2.5	0.24	4.2	2.8	2.7	32.6
	360	118	3	1 390 000	2 730 000	141 000	278 000	710	950	**24048CE4**	**24048CK30E4**	254	265	346	317	2.5	0.29	3.4	2.3	2.2	43.4
	400	128	4	1 790 000	3 100 000	182 000	320 000	670	850	**23148CE4**	**23148CKE4**	258	275	382	347	3	0.30	3.3	2.2	2.2	66.9
	400	160	4	2 130 000	3 800 000	217 000	385 000	670	850	**24148CE4**	**24148CK30E4**	258	268	382	341	3	0.38	2.7	1.8	1.8	79.5
	440	120	4	1 870 000	2 890 000	191 000	294 000	750	950	**22248CAE4**	**22248CAKE4**	258	—	422	383	3	0.27	3.7	2.5	2.4	80.2
	440	160	4	2 440 000	4 050 000	249 000	415 000	630	800	**23248CAE4**	**23248CAKE4**	258	—	422	372	3	0.37	2.7	1.8	1.8	106
	500	155	5	2 600 000	3 800 000	265 000	385 000	670	850	**22348CAE4**	**22348CAKE4**	262	—	478	423	4	0.32	3.2	2.1	2.1	147
260	360	75	2.1	930 000	1 870 000	95 000	191 000	850	1 000	**23952CAE4**	**23952CAKE4**	272	—	348	333	2	0.19	5.4	3.6	3.5	23
	400	104	4	1 430 000	2 580 000	145 000	263 000	800	950	**23052CAE4**	**23052CAKE4**	278	—	382	356	3	0.25	4.1	2.7	2.7	46.6
	400	140	4	1 810 000	3 500 000	185 000	360 000	630	850	**24052CAE4**	**24052CAK30E4**	278	—	382	348	3	0.32	3.1	2.1	2.1	62.6
	440	144	4	2 160 000	3 750 000	221 000	385 000	600	800	**23152CAE4**	**23152CAKE4**	278	—	422	380	3	0.32	3.2	2.1	2.1	88.2
	440	180	4	2 560 000	4 700 000	261 000	480 000	600	800	**24152CAE4**	**24152CAK30E4**	278	—	422	371	3	0.39	2.6	1.7	1.7	109
	480	130	5	2 180 000	3 400 000	222 000	345 000	670	850	**22252CAE4**	**22252CAKE4**	282	—	458	418	4	0.27	3.7	2.5	2.5	104
	480	174	5	2 740 000	4 550 000	279 000	460 000	560	750	**23252CAE4**	**23252CAKE4**	282	—	458	406	4	0.37	2.7	1.8	1.8	137
	540	165	6	3 100 000	4 600 000	320 000	470 000	630	800	**22352CAE4**	**22352CAKE4**	288	—	512	462	5	0.32	3.2	2.1	2.1	180

Not (1) K veya K30 soneki, konik delikli (konik 1 : 12 veya 1 : 30) rulmanları temsil eder.

Not Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B363** ve **B369**'a bakınız.

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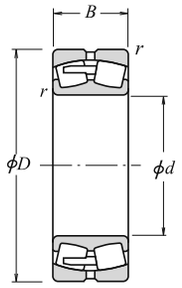
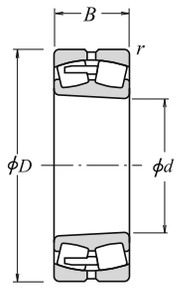
Delik Çapı 280 – 340 mm

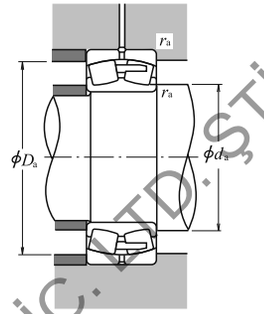


Silindirik Delik



Konik Delik

Yağ Kanalı ve Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leqq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman	Numaraları	Dayanak ve Dolgu Ölçüleri (mm)				Sabit	Eksenel Yük Faktörler			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik	Konik Delik(1)	d_a min.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
280	380	75	2.1	925 000	1 950 000	94 500	199 000	800	950	**23956CAE4**	**23956CAKE4**	292	368	351	2	0.18	5.7	3.9	3.8	24.5
	420	106	4	1 540 000	2 950 000	157 000	300 000	710	900	**23056CAE4**	**23056CAKE4**	298	402	377	3	0.24	4.2	2.8	2.7	50.5
	420	140	4	1 880 000	3 800 000	191 000	385 000	600	800	**24056CAE4**	**24056CAK30E4**	298	402	369	3	0.31	3.3	2.2	2.2	66.4
	460	146	5	2 230 000	4 000 000	228 000	410 000	560	750	**23156CAE4**	**23156CAKE4**	302	438	400	4	0.30	3.3	2.2	2.2	94.3
	460	180	5	2 640 000	5 000 000	269 000	505 000	560	750	**24156CAE4**	**24156CAK30E4**	302	438	392	4	0.37	2.7	1.8	1.8	115
	500	130	5	2 280 000	3 650 000	233 000	370 000	630	800	**22256CAE4**	**22256CAKE4**	302	478	439	4	0.25	4.0	2.7	2.6	110
	500	176	5	2 880 000	4 900 000	294 000	500 000	530	670	**23256CAE4**	**23256CAKE4**	302	478	425	4	0.35	2.9	1.9	1.9	147
	580	175	6	3 500 000	5 150 000	355 000	525 000	560	710	**22356CAE4**	**22356CAKE4**	308	552	496	5	0.31	3.2	2.1	2.1	221
300	420	90	3	1 230 000	2 490 000	125 000	254 000	710	900	**23960CAE4**	**23960CAKE4**	314	406	386	2.5	0.19	5.2	3.5	3.4	38.2
	460	118	4	1 920 000	3 700 000	196 000	375 000	670	850	**23060CAE4**	**23060CAKE4**	318	442	413	3	0.24	4.2	2.8	2.7	70.5
	460	160	4	2 310 000	4 600 000	235 000	470 000	530	710	**24060CAE4**	**24060CAK30E4**	318	442	400	3	0.32	3.1	2.1	2.0	93.6
	500	160	5	2 670 000	4 800 000	273 000	490 000	500	670	**23160CAE4**	**23160CAKE4**	322	478	433	4	0.31	3.3	2.2	2.2	125
	500	200	5	3 100 000	5 800 000	315 000	595 000	500	670	**24160CAE4**	**24160CAK30E4**	322	478	423	4	0.38	2.6	1.8	1.7	152
	540	140	5	2 610 000	4 250 000	266 000	430 000	600	750	**22260CAE4**	**22260CAKE4**	322	518	473	4	0.25	4.0	2.7	2.6	139
	540	192	5	3 400 000	5 900 000	350 000	600 000	480	630	**23260CAE4**	**23260CAKE4**	322	518	458	4	0.35	2.9	1.9	1.9	189
320	440	90	3	1 300 000	2 750 000	132 000	281 000	670	850	**23964CAE4**	**23964CAKE4**	334	426	406	2.5	0.18	5.5	3.7	3.6	40.6
	480	121	4	1 960 000	3 850 000	200 000	395 000	630	800	**23064CAE4**	**23064CAKE4**	338	462	432	3	0.24	4.2	2.8	2.8	75.6
	480	160	4	2 440 000	5 050 000	249 000	515 000	500	670	**24064CAE4**	**24064CAK30E4**	338	462	422	3	0.31	3.3	2.2	2.2	99.7
	540	176	5	3 050 000	5 500 000	315 000	560 000	480	600	**23164CAE4**	**23164CAKE4**	342	518	466	4	0.31	3.2	2.1	2.1	162
	540	218	5	3 550 000	6 650 000	360 000	675 000	480	600	**24164CAE4**	**24164CAK30E4**	342	518	456	4	0.39	2.6	1.7	1.7	196
	580	150	5	2 990 000	4 850 000	305 000	495 000	530	670	**22264CAE4**	**22264CAKE4**	342	558	508	4	0.26	3.9	2.6	2.6	174
	580	208	5	3 900 000	6 900 000	395 000	700 000	450	600	**23264CAE4**	**23264CAKE4**	342	558	488	4	0.36	2.8	1.9	1.8	239
340	460	90	3	1 330 000	2 840 000	136 000	289 000	630	800	**23968CAE4**	**23968CAKE4**	354	446	427	2.5	0.18	5.7	3.8	3.7	42.4
	520	133	5	2 280 000	4 400 000	232 000	445 000	560	710	**23068CAE4**	**23068CAKE4**	362	498	465	4	0.24	4.2	2.8	2.8	101
	520	180	5	2 920 000	6 050 000	298 000	615 000	480	600	**24068CAE4**	**24068CAK30E4**	362	498	454	4	0.32	3.2	2.1	2.1	135
	580	190	5	3 600 000	6 600 000	370 000	670 000	430	560	**23168CAE4**	**23168CAKE4**	362	558	499	4	0.31	3.2	2.1	2.1	206
	580	243	5	4 250 000	7 900 000	430 000	810 000	430	560	**24168CAE4**	**24168CAK30E4**	362	558	489	4	0.40	2.5	1.7	1.7	257
	620	224	6	4 400 000	7 800 000	450 000	795 000	400	530	**23268CAE4**	**23268CAKE4**	368	592	521	5	0.36	2.8	1.9	1.8	295

Not (1) K veya K30 soneki, konik delikli (konik 1 : 12 veya 1 : 30) rulmanları temsil eder.

Not Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B363 - B364** ve **B369 - B370**'e bakınız.

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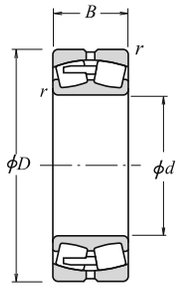
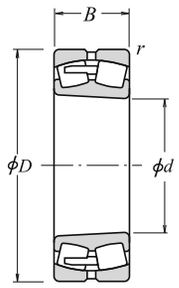
Delik Çapı 360 – 440 mm

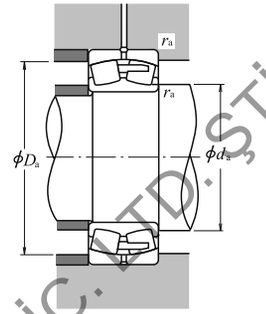


Silindirik Delik



Konik Delik

Yağ Kanalı ve Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leqq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik
360	480	90	3	1 390 000	3 050 000	142 000	315 000	600	750	**23972CAE4**
	540	134	5	2 390 000	4 700 000	244 000	480 000	530	670	**23072CAE4**
	540	180	5	2 930 000	6 100 000	299 000	625 000	450	600	**24072CAE4**
	600	192	5	3 800 000	7 100 000	390 000	725 000	400	530	**23172CAE4**
	600	243	5	4 200 000	8 000 000	430 000	815 000	400	530	**24172CAE4**
	650	232	6	4 800 000	8 550 000	490 000	870 000	380	500	**23272CAE4**
380	520	106	4	1 870 000	4 100 000	190 000	420 000	530	670	**23976CAE4**
	560	135	5	2 500 000	5 100 000	255 000	520 000	530	630	**23076CAE4**
	560	180	5	3 050 000	6 600 000	315 000	670 000	430	560	**24076CAE4**
	620	194	5	4 000 000	7 600 000	405 000	775 000	400	500	**23176CAE4**
	620	243	5	4 350 000	8 450 000	440 000	865 000	400	500	**24176CAE4**
	680	240	6	5 150 000	9 200 000	525 000	940 000	360	480	**23276CAE4**
400	540	106	4	1 890 000	4 250 000	193 000	435 000	530	630	**23980CAE4**
	600	148	5	2 970 000	5 900 000	305 000	605 000	480	600	**23080CAE4**
	600	200	5	3 600 000	7 600 000	370 000	775 000	400	500	**24080CAE4**
	650	200	6	4 150 000	7 900 000	420 000	805 000	380	480	**23180CAE4**
	650	250	6	4 950 000	10 100 000	505 000	1 030 000	380	480	**24180CAE4**
	720	256	6	5 800 000	10 400 000	590 000	1 060 000	340	450	**23280CAE4**
420	560	106	4	1 870 000	4 250 000	191 000	430 000	500	600	**23984CAE4**
	620	150	5	2 910 000	5 850 000	297 000	595 000	450	560	**23084CAE4**
	620	200	5	3 750 000	8 100 000	380 000	825 000	380	480	**24084CAE4**
	700	224	6	5 000 000	9 400 000	510 000	960 000	340	450	**23184CAE4**
	700	280	6	6 000 000	12 000 000	610 000	1 220 000	340	450	**24184CAE4**
	760	272	7.5	6 450 000	11 700 000	660 000	1 190 000	320	430	**23284CAE4**
440	600	118	4	2 190 000	4 800 000	223 000	490 000	450	560	**23988CAE4**
	650	157	6	3 150 000	6 350 000	320 000	645 000	430	530	**23088CAE4**
	650	212	6	4 150 000	9 100 000	425 000	930 000	360	450	**24088CAE4**
	720	226	6	5 300 000	10 300 000	540 000	1 060 000	320	430	**23188CAE4**
	720	280	6	6 000 000	12 100 000	610 000	1 230 000	320	430	**24188CAE4**
	790	280	7.5	6 900 000	12 800 000	705 000	1 300 000	300	400	**23288CAE4**

Not (1) K veya K30 soneki, konik delikli (konik 1 : 12 veya 1 : 30) rulmanları temsil eder.

Numaraları	Dayanak ve Dolgu Ölçüleri (mm)				Sabit	Eksenel Yük Faktörler			Kütle (kg)
Konik Delik(1)	d_a min.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
23972CAKE4	374	466	447	2.5	0.17	6.0	4.1	4.0	44.7
23072CAKE4	382	518	485	4	0.24	4.2	2.8	2.8	106
24072CAK30E4	382	518	476	4	0.32	3.2	2.1	2.1	139
23172CAKE4	382	578	520	4	0.31	3.2	2.2	2.1	217
24172CAK30E4	382	578	507	4	0.40	2.5	1.7	1.7	264
23272CAKE4	388	622	549	5	0.36	2.8	1.9	1.8	342
23976CAKE4	398	502	482	3	0.18	5.5	3.7	3.6	65.4
23076CAKE4	402	538	506	4	0.22	4.5	3.0	3.0	113
24076CAK30E4	402	538	496	4	0.29	3.4	2.3	2.3	148
23176CAKE4	402	598	540	4	0.30	3.3	2.2	2.2	229
24176CAK30E4	402	598	529	4	0.38	2.6	1.8	1.7	275
23276CAKE4	408	652	578	5	0.35	2.9	1.9	1.9	372
23980CAKE4	418	522	501	3	0.18	5.7	3.9	3.8	69.1
23080CAKE4	422	578	540	4	0.23	4.4	3.0	2.9	146
24080CAK30E4	422	578	527	4	0.31	3.3	2.2	2.2	193
23180CAKE4	428	622	569	5	0.29	3.4	2.3	2.3	257
24180CAK30E4	428	622	551	5	0.37	2.7	1.8	1.8	316
23280CAKE4	428	692	610	5	0.36	2.8	1.9	1.9	449
23984CAKE4	438	542	521	3	0.17	6.0	4.0	3.9	71.6
23084CAKE4	442	598	562	4	0.23	4.3	2.9	2.8	151
24084CAK30E4	442	598	549	4	0.31	3.2	2.2	2.1	199
23184CAKE4	448	672	607	5	0.31	3.3	2.2	2.2	341
24184CAK30E4	448	672	598	5	0.38	2.6	1.8	1.7	421
23284CAKE4	456	724	644	6	0.35	2.9	1.9	1.9	534
23988CAKE4	458	582	555	3	0.18	5.7	3.9	3.8	96.3
23088CAKE4	468	622	587	5	0.23	4.3	2.9	2.8	173
24088CAK30E4	468	622	576	5	0.31	3.2	2.1	2.1	237
23188CAKE4	468	692	627	5	0.3	3.3	2.2	2.2	360
24188CAK30E4	468	692	617	5	0.37	2.7	1.8	1.8	433
23288CAKE4	476	754	669	6	0.35	2.9	1.9	1.9	594

Not Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B364** ve **B370 - B371**'e bakınız.

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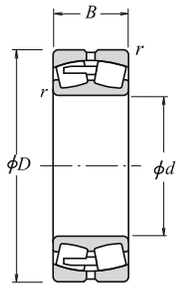
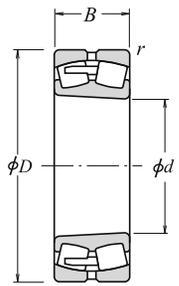
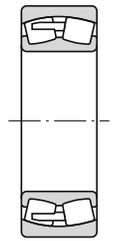


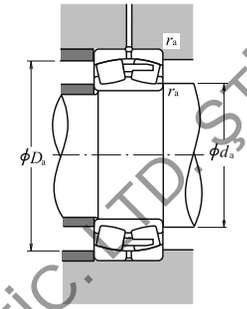
Silindirik Delik



Konik Delik



Yağ Kanalı ve Delikleri olmadan



Dinamik Eşdeğer Yük

$P = XF_r + YF_a$

$F_a/F_r \leqq e$		$F_a/F_r > e$	
X	Y	X	Y
1	Y_3	0.67	Y_2

Statik Eşdeğer Yük

$P_0 = F_r + Y_0 F_a$

e, Y_2, Y_3, ve Y_0 değerleri aşağıdaki tabloda verilmiştir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman	Numaraları	Dayanak ve Dolgu Ölçüleri (mm)				Sabit	Eksenel Yük Faktörler			Kütle (kg)
d	D	B	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	Silindirik Delik	Konik Delik(1)	d_a min.	D_a maks.	D_a min.	r_a maks.	e	Y_2	Y_3	Y_0	yaklaşık
460	620	118	4	2 220 000	4 950 000	227 000	505 000	430	530	**23992CAE4**	**23992CAKE4**	478	602	575	3	0.17	5.9	4.0	3.9	100
	680	163	6	3 450 000	7 100 000	355 000	725 000	400	500	**23092CAE4**	**23092CAKE4**	488	652	615	5	0.22	4.6	3.1	3.0	201
	680	218	6	4 500 000	9 950 000	460 000	1 010 000	340	430	**24092CAE4**	**24092CAK30E4**	488	652	604	5	0.29	3.4	2.3	2.3	266
	760	240	7.5	5 700 000	10 900 000	580 000	1 110 000	300	400	**23192CAE4**	**23192CAKE4**	496	724	661	6	0.31	3.3	2.2	2.2	423
	760	300	7.5	6 300 000	12 400 000	640 000	1 270 000	300	400	**24192CAE4**	**24192CAK30E4**	496	724	646	6	0.39	2.6	1.7	1.7	512
	830	296	7.5	7 350 000	13 700 000	750 000	1 400 000	280	380	**23292CAE4**	**23292CAKE4**	496	794	702	6	0.36	2.8	1.9	1.8	691
480	650	128	5	2 580 000	5 850 000	263 000	595 000	400	500	**23996CAE4**	**23996CAKE4**	502	628	602	4	0.18	5.7	3.8	3.7	121
	700	165	6	3 800 000	7 950 000	385 000	810 000	400	480	**23096CAE4**	**23096CAKE4**	508	672	633	5	0.22	4.6	3.1	3.0	211
	700	218	6	4 600 000	10 200 000	470 000	1 040 000	320	430	**24096CAE4**	**24096CAK30E4**	508	672	625	5	0.30	3.4	2.3	2.2	270
	790	248	7.5	6 050 000	11 700 000	620 000	1 200 000	300	380	**23196CAE4**	**23196CAKE4**	516	754	688	6	0.31	3.3	2.2	2.2	475
	790	308	7.5	7 150 000	14 600 000	730 000	1 490 000	300	380	**24196CAE4**	**24196CAK30E4**	516	754	670	6	0.39	2.6	1.7	1.7	567
	870	310	7.5	7 850 000	14 400 000	805 000	1 470 000	260	360	**23296CAE4**	**23296CAKE4**	516	834	733	6	0.36	2.8	1.9	1.8	795
500	670	128	5	2 460 000	5 550 000	250 000	565 000	400	500	**239/500CAE4**	**239/500CAKE4**	522	648	622	4	0.17	6.0	4.0	3.9	124
	720	167	6	3 750 000	8 100 000	385 000	825 000	380	480	**230/500CAE4**	**230/500CAKE4**	528	692	655	5	0.21	4.8	3.2	3.1	220
	720	218	6	4 450 000	9 900 000	450 000	1 010 000	300	400	**240/500CAE4**	**240/500CAK30E4**	528	692	643	5	0.30	3.4	2.3	2.2	276
	830	264	7.5	6 850 000	13 400 000	700 000	1 360 000	280	360	**231/500CAE4**	**231/500CAKE4**	536	794	720	6	0.31	3.2	2.2	2.1	567
	830	325	7.5	8 000 000	16 000 000	815 000	1 630 000	280	360	**241/500CAE4**	**241/500CAK30E4**	536	794	703	6	0.39	2.6	1.7	1.7	666
	920	336	7.5	9 000 000	16 600 000	915 000	1 690 000	260	320	**232/500CAE4**	**232/500CAKE4**	536	884	773	6	0.38	2.7	1.8	1.8	969
530	710	136	5	2 930 000	6 800 000	299 000	695 000	360	450	**239/530CAE4**	**239/530CAKE4**	552	688	659	4	0.17	6.0	4.0	3.9	149
	780	185	6	4 400 000	9 200 000	450 000	940 000	340	430	**230/530CAE4**	**230/530CAKE4**	558	752	706	5	0.22	4.6	3.1	3.0	298
	780	250	6	5 400 000	11 800 000	550 000	1 210 000	280	360	**240/530CAE4**	**240/530CAK30E4**	558	752	690	5	0.31	3.3	2.2	2.2	390
	870	272	7.5	7 150 000	14 100 000	730 000	1 440 000	260	340	**231/530CAE4**	**231/530CAKE4**	566	834	758	6	0.30	3.3	2.2	2.2	628
	870	335	7.5	8 500 000	17 500 000	870 000	1 790 000	260	340	**241/530CAE4**	**241/530CAK30E4**	566	834	740	6	0.38	2.6	1.8	1.7	773
	980	355	9.5	10 100 000	18 800 000	1 030 000	1 920 000	240	300	**232/530CAE4**	**232/530CAKE4**	574	936	824	8	0.38	2.7	1.8	1.7	1170
560	750	140	5	3 100 000	7 250 000	320 000	740 000	340	430	**239/560CAE4**	**239/560CAKE4**	582	728	697	4	0.16	6.1	4.1	4.0	172
	820	195	6	5 000 000	10 700 000	510 000	1 090 000	320	400	**230/560CAE4**	**230/560CAKE4**	588	792	742	5	0.22	4.5	3.0	2.9	344
	820	258	6	5 950 000	13 300 000	605 000	1 360 000	260	340	**240/560CAE4**	**240/560CAK30E4**	588	792	729	5	0.30	3.3	2.2	2.2	440
	920	280	7.5	7 850 000	15 500 000	800 000	1 580 000	240	320	**231/560CAE4**	**231/560CAKE4**	596	884	804	6	0.30	3.4	2.3	2.2	727
	920	355	7.5	9 400 000	19 600 000	960 000	2 000 000	240	320	**241/560CAE4**	**241/560CAK30E4**	596	884	782	6	0.39	2.6	1.8	1.7	886
	1 030	365	9.5	10 900 000	20 500 000	1 110 000	2 090 000	220	280	**232/560CAE4**	**232/560CAKE4**	604	986	870	8	0.36	2.8	1.9	1.8	1320

Not (1) K veya K30 soneki, konik delikli (konik 1 : 12 veya 1 : 30) rulmanları temsil eder.

Not Adaptörlerin ve çekme manşonlarının ölçüleri için, Sayfa **B365** ve **B371**'a bakınız.

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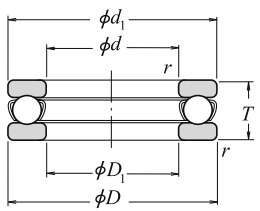
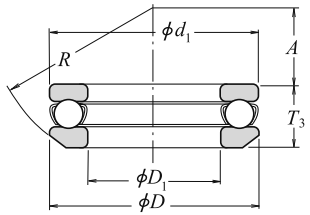
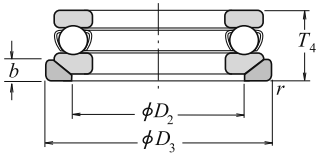


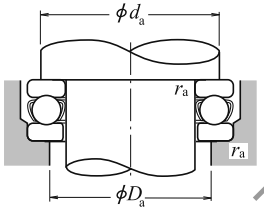
Düz Yataklı

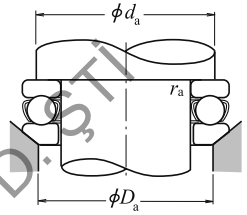


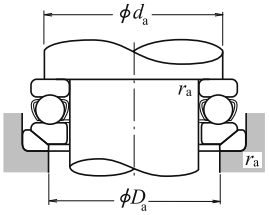
Oynak Yataklı



Oynak Yatak Pullu







Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Düz Yataklı
d	D	T	T_3	T_4	r min.	C_a	C_{0a}	C_a	C_{0a}	Gres	Yağ	
10	24	9	—	—	0.3	10 100	14 000	1 030	1 420	6 700	10 000	**51100**
	26	11	11.6	13	0.6	12 800	17 100	1 300	1 740	6 000	9 000	**51200**
12	26	9	—	—	0.3	10 400	15 400	1 060	1 570	6 700	10 000	**51101**
	28	11	11.4	13	0.6	13 300	19 000	1 350	1 940	5 600	8 500	**51201**
15	28	9	—	—	0.3	10 600	16 800	1 080	1 710	6 300	9 500	**51102**
	32	12	13.3	15	0.6	16 700	24 800	1 710	2 530	5 000	7 500	**51202**
17	30	9	—	—	0.3	11 400	19 500	1 170	1 990	6 000	9 000	**51103**
	35	12	13.2	15	0.6	17 300	27 300	1 760	2 780	4 800	7 500	**51203**
20	35	10	—	—	0.3	15 100	26 600	1 540	2 710	5 300	8 000	**51104**
	40	14	14.7	17	0.6	22 500	37 500	2 290	3 850	4 300	6 300	**51204**
25	42	11	—	—	0.6	19 700	37 000	2 010	3 800	4 800	7 100	**51105**
	47	15	16.7	19	0.6	28 000	50 500	2 860	5 150	3 800	5 600	**51205**
	52	18	19.8	22	1	36 000	61 500	3 650	6 250	3 200	5 000	**51305**
	60	24	26.4	29	1	56 000	89 500	5 700	9 100	2 600	4 000	**51405**
30	47	11	—	—	0.6	20 600	42 000	2 100	4 300	4 300	6 700	**51106**
	52	16	17.8	20	0.6	29 500	58 000	3 000	5 950	3 400	5 300	**51206**
	60	21	22.6	25	1	43 000	78 500	4 400	8 000	2 800	4 300	**51306**
	70	28	30.1	33	1	73 000	126 000	7 450	12 800	2 200	3 400	**51406**
35	52	12	—	—	0.6	22 100	49 500	2 250	5 050	4 000	6 000	**51107**
	62	18	19.9	22	1	39 500	78 000	4 050	7 950	3 000	4 500	**51207**
	68	24	25.6	28	1	56 000	105 000	5 700	10 700	2 400	3 800	**51307**
	80	32	34	37	1.1	87 500	155 000	8 950	15 800	2 000	3 000	**51407**
40	60	13	—	—	0.6	27 100	63 000	2 770	6 400	3 600	5 300	**51108**
	68	19	20.3	23	1	47 500	98 500	4 850	10 000	2 800	4 300	**51208**
	78	26	28.5	31	1	70 000	135 000	7 100	13 700	2 200	3 400	**51308**
	90	36	38.2	42	1.1	103 000	188 000	10 500	19 100	1 700	2 600	**51408**
45	65	14	—	—	0.6	28 100	69 000	2 860	7 050	3 400	5 000	**51109**
	73	20	21.3	24	1	48 000	105 000	4 900	10 700	2 600	4 000	**51209**
	85	28	30.1	33	1	80 500	163 000	8 200	16 700	2 000	3 000	**51309**
	100	39	42.4	46	1.1	128 000	246 000	13 000	25 100	1 600	2 400	**51409**
50	70	14	—	—	0.6	29 000	75 500	2 960	7 700	3 200	4 800	**51110**
	78	22	23.5	26	1	49 000	111 000	5 000	11 400	2 400	3 600	**51210**
	95	31	34.3	37	1.1	97 500	202 000	9 950	20 600	1 800	2 800	**51310**
	110	43	45.6	50	1.5	147 000	288 000	15 000	29 400	1 400	2 200	**51410**

Rulman Numaraları		Ölçüler (mm)							Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg) yaklaşık		
Oynak Yataklı	Oynak Yatak Pullu	d_1	D_1	D_2	D_3	b	A	R	d_a min.	D_a maks.	r_a maks.	Düz Yataklı	Oynak Yataklı	Oynak Yatak Pullu
—	—	24	11	—	—	—	—	—	18	16	0.3	0.019	—	—
53200	**53200 U**	26	12	18	28	3.5	8.5	22	20	16	0.6	0.028	0.029	0.036
—	—	26	13	—	—	—	—	—	20	18	0.3	0.021	—	—
53201	**53201 U**	28	14	20	30	3.5	11.5	25	22	18	0.6	0.031	0.031	0.039
—	—	28	16	—	—	—	—	—	23	20	0.3	0.023	—	—
53202	**53202 U**	32	17	24	35	4	12	28	25	22	0.6	0.043	0.048	0.059
—	—	30	18	—	—	—	—	—	25	22	0.3	0.025	—	—
53203	**53203 U**	35	19	26	38	4	16	32	28	24	0.6	0.050	0.055	0.069
—	—	35	21	—	—	—	—	—	29	26	0.3	0.037	—	—
53204	**53204 U**	40	22	30	42	5	18	36	32	28	0.6	0.077	0.080	0.096
—	—	42	26	—	—	—	—	—	35	32	0.6	0.056	—	—
53205	**53205 U**	47	27	36	50	5.5	19	40	38	34	0.6	0.111	0.123	0.151
53305	**53305 U**	52	27	38	55	6	21	45	41	36	1	0.169	0.182	0.224
53405	**53405 U**	60	27	42	62	8	19	50	46	39	1	0.334	0.353	0.426
—	—	47	32	—	—	—	—	—	40	37	0.6	0.064	—	—
53206	**53206 U**	52	32	42	55	5.5	22	45	43	39	0.6	0.137	0.154	0.183
53306	**53306 U**	60	32	45	62	7	22	50	48	42	1	0.267	0.28	0.336
53406	**53406 U**	70	32	50	75	9	20	56	54	46	1	0.519	0.535	0.666
—	—	52	37	—	—	—	—	—	45	42	0.6	0.081	—	—
53207	**53207 U**	62	37	48	65	7	24	50	51	46	1	0.21	0.231	0.292
53307	**53307 U**	68	37	52	72	7.5	24	56	55	48	1	0.386	0.403	0.488
53407	**53407 U**	80	37	58	85	10	23	64	62	53	1	0.769	0.785	0.967
—	—	60	42	—	—	—	—	—	52	48	0.6	0.12	—	—
53208	**53208 U**	68	42	55	72	7	28.5	56	57	51	1	0.27	0.289	0.355
53308	**53308 U**	78	42	60	82	8.5	28	64	63	55	1	0.536	0.581	0.704
53408	**53408 U**	90	42	65	95	12	26	72	70	60	1	1.1	1.12	1.38
—	—	65	47	—	—	—	—	—	57	53	0.6	0.143	—	—
53209	**53209 U**	73	47	60	78	7.5	26	56	62	56	1	0.31	0.333	0.419
53309	**53309 U**	85	47	65	90	10	25	64	69	61	1	0.672	0.702	0.888
53409	**53409 U**	100	47	72	105	12.5	29	80	78	67	1	1.46	1.53	1.87
—	—	70	52	—	—	—	—	—	62	58	0.6	0.153	—	—
53210	**53210 U**	78	52	62	82	7.5	32.5	64	67	61	1	0.378	0.404	0.504
53310	**53310 U**	95	52	72	100	11	28	72	77	68	1	0.931	1.01	1.27
53410	**53410 U**	110	52	80	115	14	35	90	86	74	1.5	1.94	1.98	2.41

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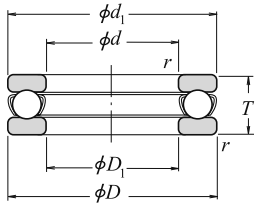

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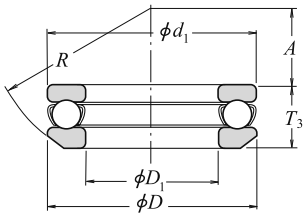

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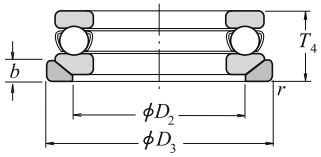

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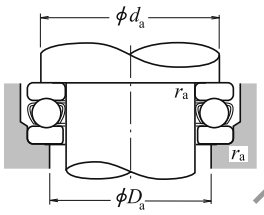

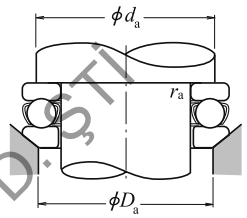

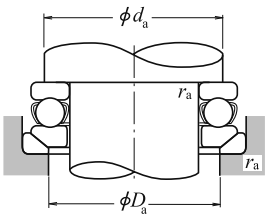

Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Düz Yataklı
d	D	T	T_3	T_4	r min.	C_a	C_{0a}	C_a	C_{0a}	Gres	Yağ	
55	78	16	—	—	0.6	35 000	93 000	3 600	9 500	2 800	4 300	**51111**
	90	25	27.3	30	1	70 000	159 000	7 150	16 200	2 200	3 200	**51211**
	105	35	39.3	42	1.1	115 000	244 000	11 800	24 900	1 600	2 400	**51311**
	120	48	50.5	55	1.5	181 000	350 000	18 500	35 500	1 300	1 900	**51411**
60	85	17	—	—	1	41 500	113 000	4 250	11 500	2 600	4 000	**51112**
	95	26	28	31	1	71 500	169 000	7 300	17 200	2 000	3 000	**51212**
	110	35	38.3	42	1.1	119 000	263 000	12 100	26 800	1 600	2 400	**51312**
	130	51	54	58	1.5	202 000	395 000	20 600	40 500	1 200	1 800	**51412**
65	90	18	—	—	1	42 000	117 000	4 300	12 000	2 400	3 800	**51113**
	100	27	28.7	32	1	75 500	189 000	7 700	19 200	1 900	2 800	**51213**
	115	36	39.4	43	1.1	123 000	282 000	12 500	28 700	1 500	2 400	**51313**
	140	56	60.2	65	2	234 000	495 000	23 800	50 500	1 100	1 700	**51413**
70	95	18	—	—	1	43 500	127 000	4 450	12 900	2 400	3 600	**51114**
	105	27	28.8	32	1	74 000	189 000	7 550	19 200	1 900	2 800	**51214**
	125	40	44.2	48	1.1	137 000	315 000	14 000	32 000	1 400	2 000	**51314**
	150	60	63.6	69	2	252 000	555 000	25 700	56 500	1 000	1 500	**51414**
75	100	19	—	—	1	43 500	131 000	4 450	13 400	2 200	3 400	**51115**
	110	27	28.3	32	1	78 000	209 000	7 950	21 300	1 800	2 800	**51215**
	135	44	48.1	52	1.5	159 000	365 000	16 200	37 500	1 300	1 900	**51315**
	160	65	69	75	2	254 000	560 000	25 900	57 000	950	1 400	**51415**
80	105	19	—	—	1	45 000	141 000	4 600	14 400	2 200	3 400	**51116**
	115	28	29.5	33	1	79 000	218 000	8 050	22 300	1 800	2 600	**51216**
	140	44	47.6	52	1.5	164 000	395 000	16 700	40 000	1 300	1 900	**51316**
	170	68	72.2	78	2.1	272 000	620 000	27 800	63 500	900	1 300	**51416**
85	110	19	—	—	1	46 500	150 000	4 700	15 300	2 200	3 200	**51117**
	125	31	33.1	37	1	96 000	264 000	9 800	26 900	1 600	2 400	**51217**
	150	49	53.1	58	1.5	207 000	490 000	21 100	50 000	1 100	1 700	**51317**
	180	72	77	83	2.1	310 000	755 000	31 500	77 000	850	1 300	**51417X**
90	120	22	—	—	1	60 000	190 000	6 150	19 400	1 900	3 000	**51118**
	135	35	38.5	42	1.1	114 000	310 000	11 600	31 500	1 400	2 200	**51218**
	155	50	54.6	59	1.5	214 000	525 000	21 900	53 500	1 100	1 700	**51318**
	190	77	81.2	88	2.1	330 000	825 000	33 500	84 000	800	1 200	**51418X**
100	135	25	—	—	1	86 000	268 000	8 750	27 300	1 700	2 600	**51120**
	150	38	40.9	45	1.1	135 000	375 000	13 700	38 500	1 300	2 000	**51220**
	170	55	59.2	64	1.5	239 000	595 000	24 300	61 000	1 000	1 500	**51320**
	210	85	90	98	3	370 000	985 000	38 000	100 000	710	1 100	**51420X**

Rulman Numaraları[1]		Ölçüler (mm)							Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg) yaklaşık		
Oynak Yataklı	Oynak Yatak Pullu	d_1	D_1	D_2	D_3	b	A	R	d_a min.	D_a maks.	r_a maks.	Düz Yataklı	Oynak Yataklı	Oynak Yatak Pullu
—	—	78	57	—	—	—	—	—	69	64	0.6	0.227	—	—
53211	**53211 U**	90	57	72	95	9	35	72	76	69	1	0.599	0.656	0.819
53311	**53311 U**	105	57	80	110	11.5	30	80	85	75	1	1.31	1.45	1.78
53411	**53411 U**	120	57	88	125	15.5	28	90	94	81	1.5	2.58	2.59	3.16
—	—	85	62	—	—	—	—	—	75	70	1	0.281	—	—
53212	**53212 U**	95	62	78	100	9	32.5	72	81	74	1	0.673	0.731	0.897
53312	**53312 U**	110	62	85	115	11.5	41	90	90	80	1	1.4	1.51	1.83
53412	**53412 U**	130	62	95	135	16	34	100	102	88	1.5	3.16	3.2	3.91
—	—	90	67	—	—	—	—	—	80	75	1	0.324	—	—
53213	**53213 U**	100	67	82	105	9	40	80	86	79	1	0.756	0.812	0.989
53313	**53313 U**	115	67	90	120	12.5	38.5	90	95	85	1	1.54	1.67	2.04
53413	**53413 U**	140	68	100	145	17.5	40	112	110	95	2	4.1	4.22	5.13
—	—	95	72	—	—	—	—	—	85	80	1	0.346	—	—
53214	**53214 U**	105	72	88	110	9	38	80	91	84	1	0.793	0.866	1.05
53314	**53314 U**	125	72	98	130	13	43	100	103	92	1	2.0	2.2	2.64
53414	**53414 U**	150	73	110	155	19.5	34	112	118	102	2	5.05	5.12	6.21
—	—	100	77	—	—	—	—	—	90	85	1	0.389	—	—
53215	**53215 U**	110	77	92	115	9.5	49	90	96	89	1	0.845	1.27	1.11
53315	**53315 U**	135	77	105	140	15	37	100	111	99	1.5	2.6	2.8	3.42
53415	**53415 U**	160	78	115	165	21	42	125	125	110	2	6.15	6.23	7.58
—	—	105	82	—	—	—	—	—	95	90	1	0.417	—	—
53216	**53216 U**	115	82	98	120	10	46	90	101	94	1	0.931	1.01	1.23
53316	**53316 U**	140	82	110	145	15	50	112	116	104	1.5	2.74	2.94	3.55
53416	**53416 U**	170	83	125	175	22	36	125	133	117	2	7.21	7.33	8.9
—	—	110	87	—	—	—	—	—	100	95	1	0.44	—	—
53217	**53217 U**	125	88	105	130	11	52	100	109	101	1	1.22	1.35	1.63
53317	**53317 U**	150	88	115	155	17.5	43	112	124	111	1.5	3.57	3.78	4.67
53417 X	**53417 XU**	177	88	130	185	23	47	140	141	124	2	8.51	8.72	10.4
—	—	120	92	—	—	—	—	—	108	102	1	0.646	—	—
53218	**53218 U**	135	93	110	140	13.5	45	100	117	108	1	1.69	1.89	2.38
53318	**53318 U**	155	93	120	160	18	40	112	129	116	1.5	3.83	4.11	5.09
53418 X	**53418 XU**	187	93	140	195	25.5	40	140	149	131	2	10.2	10.3	12.4
—	—	135	102	—	—	—	—	—	121	114	1	0.96	—	—
53220	**53220 U**	150	103	125	155	14	52	112	130	120	1	2.25	2.49	3.03
53320	**53320 U**	170	103	135	175	18	46	125	142	128	1.5	4.98	5.31	6.37
53420 X	**53420 XU**	205	103	155	220	27	50	160	165	145	2.5	14.8	15	18.1

Not (1) X işaretli tüm rulman numaralarının mil pullarının dış çapı d_1 , yatak pullarının dış çapı D'den daha küçüktür.

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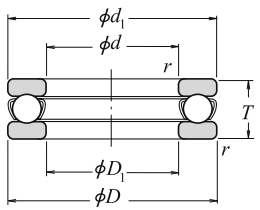
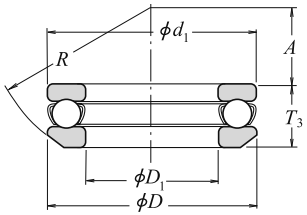
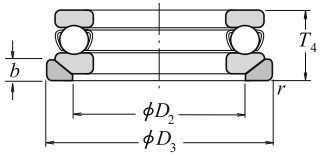


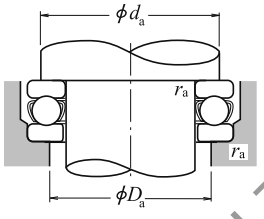
Düz Yataklı

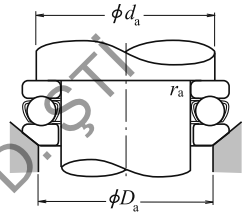


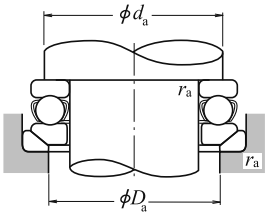
Oynak Yataklı



Oynak Yatak Pullu







Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Düz Yataklı
d	D	T	T_3	T_4	r min.	C_a	C_{0a}	C_a	C_{0a}	Gres	Yağ	
110	145	25	—	—	1	88 000	288 000	8 950	29 400	1 700	2 400	**51122**
	160	38	40.2	45	1.1	136 000	395 000	13 900	40 000	1 300	1 900	**51222**
	190	63	67.2	72	2	282 000	755 000	28 800	77 000	900	1 300	**51322 X**
	230	95	99.7	109	3	415 000	1 150 000	42 000	118 000	630	950	**51422 X**
120	155	25	—	—	1	90 000	310 000	9 150	31 500	1 600	2 400	**51124**
	170	39	40.8	46	1.1	141 000	430 000	14 400	44 000	1 200	1 800	**51224**
	210	70	74.1	80	2.1	330 000	930 000	33 500	95 000	800	1 200	**51324 X**
	250	102	107.3	118	4	480 000	1 400 000	49 000	142 000	600	900	**51424 X**
130	170	30	—	—	1	105 000	350 000	10 700	36 000	1 400	2 000	**51126**
	190	45	47.9	53	1.5	183 000	550 000	18 700	56 000	1 100	1 600	**51226 X**
	225	75	80.3	86	2.1	350 000	1 030 000	35 500	105 000	750	1 100	**51326 X**
	270	110	115.2	128	4	525 000	1 590 000	53 500	162 000	530	800	**51426 X**
140	180	31	—	—	1	107 000	375 000	11 000	38 500	1 300	2 000	**51128 X**
	200	46	48.6	55	1.5	186 000	575 000	18 900	59 000	1 000	1 500	**51228 X**
	240	80	84.9	92	2.1	370 000	1 130 000	37 500	115 000	670	1 000	**51328 X**
	280	112	117	131	4	550 000	1 750 000	56 500	178 000	530	800	**51428 X**
150	190	31	—	—	1	110 000	400 000	11 200	41 000	1 300	1 900	**51130 X**
	215	50	53.3	60	1.5	238 000	735 000	24 300	75 000	950	1 400	**51230 X**
	250	80	83.7	92	2.1	380 000	1 200 000	39 000	123 000	670	1 000	**51330 X**
	300	120	125.9	140	4	620 000	2 010 000	63 000	205 000	480	710	**51430 X**
160	200	31	—	—	1	113 000	425 000	11 500	43 500	1 200	1 900	**51132 X**
	225	51	54.7	61	1.5	249 000	805 000	25 400	82 000	900	1 400	**51232 X**
	270	87	91.7	100	3	475 000	1 570 000	48 500	160 000	600	900	**51332 X**
	320	130	135.3	150	5	650 000	2 210 000	66 000	226 000	450	670	**51432 X**
170	215	34	—	—	1.1	135 000	510 000	13 800	52 000	1 100	1 700	**51134 X**
	240	55	58.7	65	1.5	280 000	915 000	28 500	93 000	850	1 300	**51234 X**
	280	87	91.3	100	3	465 000	1 570 000	47 500	160 000	600	900	**51334 X**
	340	135	141	156	5	715 000	2 480 000	73 000	253 000	430	630	**51434 X**
180	225	34	—	—	1.1	136 000	530 000	13 800	54 000	1 100	1 700	**51136 X**
	250	56	58.2	66	1.5	284 000	955 000	28 900	97 000	800	1 200	**51236 X**
	300	95	99.3	109	3	480 000	1 680 000	49 000	171 000	560	850	**51336 X**
	360	140	148.3	164	5	750 000	2 730 000	76 500	278 000	400	600	**51436 X**
190	240	37	—	—	1.1	172 000	655 000	17 500	67 000	1 000	1 600	**51138 X**
	270	62	65.7	73	2	320 000	1 110 000	32 500	113 000	750	1 100	**51238 X**
	320	105	111	121	4	550 000	1 960 000	56 000	199 000	500	750	**51338 X**

Rulman Numaraları(1)		Ölçüler (mm)							Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg) yaklaşık		
Oynak Yataklı	Oynak Yatak Pullu	d_1	D_1	D_2	D_3	b	A	R	d_a min.	D_a maks.	r_a maks.	Düz Yataklı	Oynak Yataklı	Oynak Yatak Pullu
—	—	145	112	—	—	—	—	—	131	124	1	1.04	—	—
53222	**53222 U**	160	113	135	165	14	65	125	140	130	1	2.42	2.65	3.2
53322 X	**53322 XU**	187	113	150	195	20.5	51	140	158	142	2	7.19	7.55	9.1
53422 X	**53422 XU**	225	113	170	240	29	59	180	181	159	2.5	20	20.5	24.3
—	—	155	122	—	—	—	—	—	141	134	1	1.12	—	—
53224	**53224 U**	170	123	145	175	15	61	125	150	140	1	2.7	2.94	3.58
53324 X	**53324 XU**	205	123	165	220	22	63	160	173	157	2	9.7	10.1	12.4
53424 X	**53424 XU**	245	123	185	260	32	70	200	196	174	3	26.2	26.5	31.3
—	—	170	132	—	—	—	—	—	154	146	1	1.68	—	—
53226 X	**53226 XU**	187	133	160	195	17	67	140	166	154	1.5	3.95	4.35	5.33
53326 X	**53326 XU**	220	134	177	235	26	53	160	186	169	2	12.1	12.7	15.8
53426 X	**53426 XU**	265	134	200	280	38	58	200	212	188	3	32.3	32.4	38.8
—	—	178	142	—	—	—	—	—	164	156	1	1.83	—	—
53228 X	**53228 XU**	197	143	170	210	17	87	160	176	164	1.5	4.3	4.74	5.89
53328 X	**53328 XU**	235	144	190	250	26	68	180	199	181	2	14.2	16.3	19.5
53428 X	**53428 XU**	275	144	206	290	38	83	225	222	198	3	34.7	34.8	41.4
—	—	188	152	—	—	—	—	—	174	166	1	1.95	—	—
53230 X	**53230 XU**	212	153	180	225	20.5	79	160	189	176	1.5	5.52	6.09	7.82
53330 X	**53330 XU**	245	154	200	260	26	89.5	200	209	191	2	15	17.3	20.5
53430 X	**53430 XU**	295	154	225	310	41	69	225	238	212	3	43.5	43.8	51.9
—	—	198	162	—	—	—	—	—	184	176	1	2.07	—	—
53232 X	**53232 XU**	222	163	190	235	21	74	160	199	186	1.5	6.04	6.78	8.7
53332 X	**53332 XU**	265	164	215	280	29	77	200	225	205	2.5	19.6	22.3	26.7
53432 X	**53432 XU**	315	164	240	330	41.5	84	250	254	226	4	52.7	52.9	62
—	—	213	172	—	—	—	—	—	197	188	1	2.72	—	—
53234 X	**53234 XU**	237	173	200	250	21.5	91	180	212	198	1.5	7.41	8.21	10.5
53334 X	**53334 XU**	275	174	220	290	29	105	225	235	215	2.5	20.3	23.2	28
53434 X	**53434 XU**	335	174	255	350	46	74	250	269	241	4	61.2	61.3	73
—	—	222	183	—	—	—	—	—	207	198	1	2.79	—	—
53236 X	**53236 XU**	247	183	210	260	21.5	112	200	222	208	1.5	7.94	8.57	10.8
53336 X	**53336 XU**	295	184	240	310	32	91	225	251	229	2.5	25.9	29.2	34.9
53436 X	**53436 XU**	355	184	270	370	46.5	97	280	285	255	4	70.5	72.1	84.9
—	—	237	193	—	—	—	—	—	220	210	1	3.6	—	—
53238 X	**53238 XU**	267	194	230	280	23	98	200	238	222	2	11.8	12.9	15.7
53338 X	**53338 XU**	315	195	255	330	33	104	250	266	244	3	36.5	38.1	44.7

Not (1) X işaretli tüm rulman numaralarının mil pullarının dış çapı d_1 , yatak pullarının dış çapı D'den daha küçüktür.

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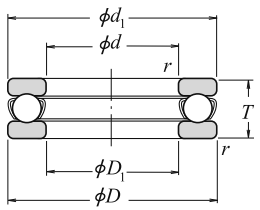
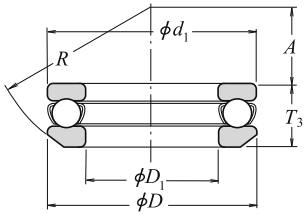
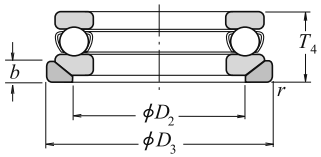


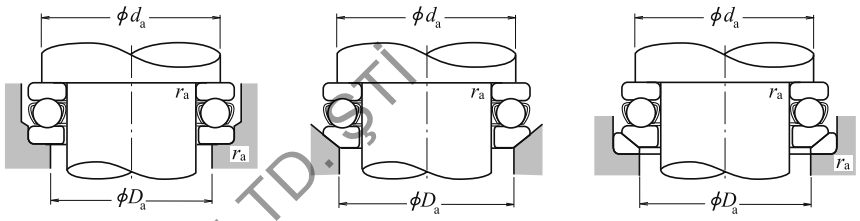
Düz Yataklı



Oynak Yataklı



Oynak Yatak Pullu



Temel Ölçüler (mm)						Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Düz Yataklı
d	D	T	T_3	T_4	r min.	C_a	C_{0a}	C_a	C_{0a}	Gres	Yağ	
200	250	37	—	—	1.1	173 000	675 000	17 600	69 000	1 000	1 500	**51140 X**
	280	62	65.3	74	2	315 000	1 110 000	32 500	113 000	710	1 100	**51240 X**
	340	110	118.4	130	4	600 000	2 220 000	61 500	227 000	480	710	**51340 X**
220	270	37	—	—	1.1	179 000	740 000	18 200	75 500	950	1 500	**51144 X**
	300	63	65.6	75	2	325 000	1 210 000	33 500	123 000	670	1 000	**51244 X**
240	300	45	—	—	1.5	229 000	935 000	23 400	95 000	850	1 200	**51148 X**
	340	78	81.6	92	2.1	420 000	1 650 000	43 000	168 000	560	850	**51248 X**
260	320	45	—	—	1.5	233 000	990 000	23 800	101 000	800	1 200	**51152 X**
	360	79	82.8	93	2.1	435 000	1 800 000	44 500	184 000	560	850	**51252 X**
280	350	53	—	—	1.5	315 000	1 310 000	32 000	134 000	710	1 000	**51156 X**
	380	80	85	94	2.1	450 000	1 950 000	46 000	199 000	530	800	**51256 X**
300	380	62	—	—	2	360 000	1 560 000	36 500	159 000	600	900	**51160 X**
	420	95	100.5	112	3	540 000	2 410 000	55 000	246 000	450	670	**51260 X**
320	400	63	—	—	2	365 000	1 660 000	37 500	169 000	600	900	**51164 X**
	440	95	100.5	112	3	585 000	2 680 000	59 500	273 000	450	670	**51264 X**
340	420	64	—	—	2	375 000	1 760 000	38 500	179 000	560	850	**51168 X**
	460	96	100.3	113	3	595 000	2 800 000	60 500	285 000	430	630	**51268 X**
360	440	65	—	—	2	385 000	1 860 000	39 000	190 000	560	800	**51172 X**
	500	110	116.7	130	4	705 000	3 500 000	72 000	355 000	380	560	**51272 X**

Rulman Numaraları(1)		Ölçüler (mm)							Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg) yaklaşık		
Oynak Yataklı	Oynak Yatak Pullu	d_1	D_1	D_2	D_3	b	A	R	d_a min.	D_a maks.	r_a maks.	Düz Yataklı	Oynak Yataklı	Oynak Yatak Pullu
—	—	247	203	—	—	—	—	—	230	220	1	3.75	—	—
53240 X	**53240 XU**	277	204	240	290	23	125	225	248	232	2	12.3	13.4	16.1
53340 X	**53340 XU**	335	205	270	350	38	92	250	282	258	3	43.6	46.2	54.8
—	—	267	223	—	—	—	—	—	250	240	1	4.09	—	—
53244 X	**53244 XU**	297	224	260	310	25	118	225	268	252	2	13.6	14.9	18
—	—	297	243	—	—	—	—	—	276	264	1.5	6.55	—	—
53248 X	**53248 XU**	335	244	290	350	30	122	250	299	281	2	23.7	25.6	30.7
—	—	317	263	—	—	—	—	—	296	284	1.5	7.01	—	—
53252 X	**53252 XU**	355	264	305	370	30	152	280	319	301	2	25.1	27.3	33.2
—	—	347	283	—	—	—	—	—	322	308	1.5	12	—	—
53256 X	**53256 XU**	375	284	325	390	31	143	280	339	321	2	27.1	30.3	37
—	—	376	304	—	—	—	—	—	348	332	2	17.2	—	—
53260 X	**53260 XU**	415	304	360	430	34	164	320	371	349	2.5	43.5	47.7	56.1
—	—	396	324	—	—	—	—	—	368	352	2	18.6	—	—
53264 X	**53264 XU**	435	325	380	450	36	157	320	391	369	2.5	45	49.9	59.4
—	—	416	344	—	—	—	—	—	388	372	2	19.9	—	—
53268 X	**53268 XU**	455	345	400	470	36	199	360	411	389	2.5	47.9	52.7	62
—	—	436	364	—	—	—	—	—	408	392	2	21.5	—	—
53272 X	**53272 XU**	495	365	430	510	43	172	360	442	418	3	68.8	76.3	90.9

Not (1) X işaretli tüm rulman numaralarının mil pullarının dış çapı d_1 , yatak pullarının dış çapı D'den daha küçüktür.

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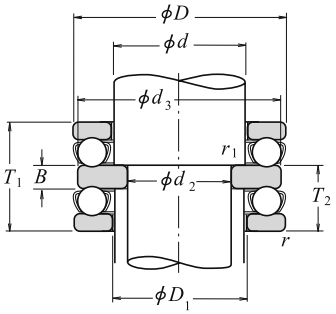
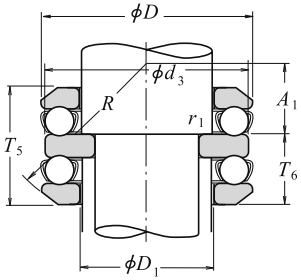
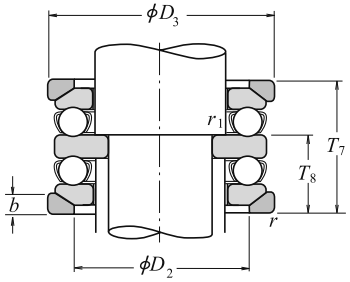


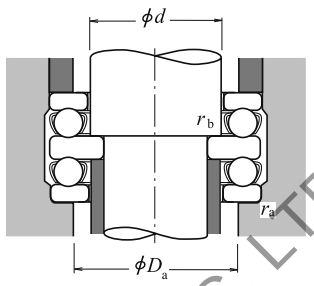
Düz Yataklı

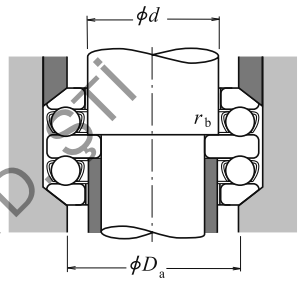


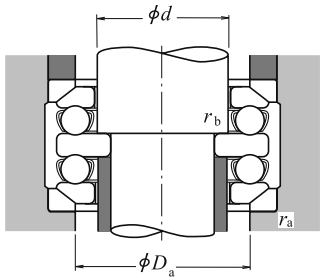
Oynak Yataklı



Oynak Yatak Pullu







Temel Ölçüler (mm)								Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman Numaraları	
d_2	d	D	T_1	T_5	T_7	r min.	r_1 min.	C_a	C_{0a}	C_a	C_{0a}	Gres	Yağ	Düz Yataklı	Oynak Yataklı
10	15	32	22	24.6	28	0.6	0.3	16 700	24 800	1 710	2 530	4 800	7 100	**52202**	**54202**
15	20	40	26	27.4	32	0.6	0.3	22 500	37 500	2 290	3 850	4 000	6 000	**52204**	**54204**
	25	60	45	49.8	55	1	0.6	56 000	89 500	5 700	9 100	2 400	3 600	**52405**	**54405**
20	25	47	28	31.4	36	0.6	0.3	28 000	50 500	2 860	5 150	3 400	5 300	**52205**	**54205**
	25	52	34	37.6	42	1	0.3	36 000	61 500	3 650	6 250	3 000	4 500	**52305**	**54305**
	30	70	52	56.2	62	1	0.6	73 000	126 000	7 450	12 800	2 200	3 200	**52406**	**54406**
25	30	52	29	32.6	37	0.6	0.3	29 500	58 000	3 000	5 950	3 200	5 000	**52206**	**54206**
	30	60	38	41.2	46	1	0.3	43 000	78 500	4 400	8 000	2 600	4 000	**52306**	**54306**
	35	80	59	63	69	1.1	0.6	87 500	155 000	8 950	15 800	1 800	2 800	**52407**	**54407**
30	35	62	34	37.8	42	1	0.3	39 500	78 000	4 050	7 950	2 800	4 300	**52207**	**54207**
	35	68	44	47.2	52	1	0.3	56 000	105 000	5 700	10 700	2 400	3 600	**52307**	**54307**
	40	68	36	38.6	44	1	0.6	47 500	98 500	4 850	10 000	2 600	3 800	**52208**	**54208**
	40	78	49	54	59	1	0.6	70 000	135 000	7 100	13 700	2 000	3 000	**52308**	**54308**
	40	90	65	69.4	77	1.1	0.6	103 000	188 000	10 500	19 100	1 700	2 400	**52408**	**54408**
35	45	73	37	39.6	45	1	0.6	48 000	105 000	4 900	10 700	2 400	3 600	**52209**	**54209**
	45	85	52	56.2	62	1	0.6	80 500	163 000	8 200	16 700	1 900	2 800	**52309**	**54309**
	45	100	72	78.8	86	1.1	0.6	128 000	246 000	13 000	25 100	1 500	2 200	**52409**	**54409**
40	50	78	39	42	47	1	0.6	49 000	111 000	5 000	11 400	2 400	3 400	**52210**	**54210**
	50	95	58	64.6	70	1.1	0.6	97 500	202 000	9 950	20 600	1 700	2 600	**52310**	**54310**
	50	110	78	83.2	92	1.5	0.6	147 000	288 000	15 000	29 400	1 400	2 000	**52410**	**54410**
45	55	90	45	49.6	55	1	0.6	70 000	159 000	7 150	16 200	2 000	3 000	**52211**	**54211**
	55	105	64	72.6	78	1.1	0.6	115 000	244 000	11 800	24 900	1 500	2 400	**52311**	**54311**
	55	120	87	92	101	1.5	0.6	181 000	350 000	18 500	35 500	1 200	1 800	**52411**	**54411**
50	60	95	46	50	56	1	0.6	71 500	169 000	7 300	17 200	1 900	3 000	**52212**	**54212**
	60	110	64	70.6	78	1.1	0.6	119 000	263 000	12 100	26 800	1 500	2 200	**52312**	**54312**
	60	130	93	99	107	1.5	0.6	202 000	395 000	20 600	40 500	1 100	1 700	**52412**	**54412**
	65	140	101	109.4	119	2	1	234 000	495 000	23 800	50 500	1 000	1 600	**52413**	**54413**
55	65	100	47	50.4	57	1	0.6	75 500	189 000	7 700	19 200	1 900	2 800	**52213**	**54213**
	65	115	65	71.8	79	1.1	0.6	123 000	282 000	12 500	28 700	1 500	2 200	**52313**	**54313**
	70	105	47	50.6	57	1	1	74 000	189 000	7 550	19 200	1 800	2 800	**52214**	**54214**
	70	125	72	80.4	88	1.1	1	137 000	315 000	14 000	32 000	1 300	2 000	**52314**	**54314**
	70	150	107	114.2	125	2	1	252 000	555 000	25 700	56 500	1 000	1 500	**52414**	**54414**

Oynak Yatak Pullu	Ölçüler (mm)											Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg) yaklaşık		
	d_3	D_1	D_2	D_3	T_2	T_6	T_8	B	b	A_1	R	D_a maks.	r_a maks.	r_b maks.	Düz Yataklı	Oynak Yataklı	Oynak Yatak Pullu
54202 U	32	17	24	35	13.5	14.8	16.5	5	4	10.5	28	24	0.6	0.3	0.081	0.090	0.113
54204 U	40	22	30	42	16	16.7	19	6	5	16	36	30	0.6	0.3	0.148	0.151	0.185
54405 U	60	27	42	62	28	30.4	33	11	8	15	50	42	1	0.6	0.641	0.68	0.825
54205 U	47	27	36	50	17.5	19.2	21.5	7	5.5	16.5	40	36	0.6	0.3	0.213	0.236	0.293
54305 U	52	27	38	55	21	22.8	25	8	6	18	45	38	1	0.3	0.324	0.35	0.434
54406 U	70	32	50	75	32	34.1	37	12	9	16	56	50	1	0.6	0.978	1.01	1.27
54206 U	52	32	42	55	18	19.8	22	7	5.5	20	45	42	0.6	0.3	0.254	0.288	0.345
54306 U	60	32	45	62	23.5	25.1	27.5	9	7	19.5	50	45	1	0.3	0.483	0.511	0.621
54407 U	80	37	58	85	36.5	38.5	41.5	14	10	18.5	64	58	1	0.6	1.43	1.47	1.83
54207 U	62	37	48	65	21	22.9	25	8	7	21	50	48	1	0.3	0.406	0.447	0.57
54307 U	68	37	52	72	27	28.6	31	10	7.5	21	56	52	1	0.3	0.71	0.744	0.915
54208 U	68	42	55	72	22.5	23.8	26.5	9	7	25	56	55	1	0.6	0.543	0.581	0.713
54308 U	78	42	60	82	30.5	33	35.5	12	8.5	23.5	64	60	1	0.6	1.04	1.13	1.38
54408 U	90	42	65	95	40	42.2	46	15	12	22	72	65	1	0.6	1.98	2.02	2.54
54209 U	73	47	60	78	23	24.3	27	9	7.5	23	56	60	1	0.6	0.606	0.652	0.823
54309 U	85	47	65	90	32	34.1	37	12	10	21	64	65	1	0.6	1.28	1.34	1.71
54409 U	100	47	72	105	44.5	47.9	51.5	17	12.5	23.5	80	72	1	0.6	2.71	2.85	3.53
54210 U	78	52	62	82	24	25.5	28	9	7.5	30.5	64	62	1	0.6	0.697	0.75	0.949
54310 U	95	52	72	100	36	39.3	42	14	11	23	72	72	1	0.6	1.78	1.94	2.46
54410 U	110	52	80	115	48	50.6	55	18	14	30	90	80	1.5	0.6	3.51	3.59	4.45
54211 U	90	57	72	95	27.5	29.8	32.5	10	9	32.5	72	72	1	0.6	1.11	1.22	1.55
54311 U	105	57	80	110	39.5	43.8	46.5	15	11.5	25.5	80	80	1	0.6	2.43	2.7	3.35
54411 U	120	57	88	125	53.5	56	60.5	20	15.5	22.5	90	88	1.5	0.6	4.66	4.68	5.82
54212 U	95	62	78	100	28	30	33	10	9	30.5	72	78	1	0.6	1.22	1.33	1.66
54312 U	110	62	85	115	39.5	42.8	46.5	15	11.5	36.5	90	85	1	0.6	2.59	2.82	3.45
54412 U	130	62	95	135	57	60	64	21	16	28	100	95	1.5	0.6	5.74	5.82	7.24
54413 U	140	68	100	145	62	66.2	71	23	17.5	34	112	100	2	1	7.41	7.66	9.47
54213 U	100	67	82	105	28.5	30.2	33.5	10	9	38.5	80	82	1	0.6	1.34	1.45	1.81
54313 U	115	67	90	120	40	43.4	47	15	12.5	34.5	90	90	1	0.6	2.8	3.06	3.8
54214 U	105	72	88	110	28.5	30.3	33.5	10	9	36.5	80	88	1	1	1.44	1.59	1.95
54314 U	125	72	98	130	44	48.2	52	16	13	39	100	98	1	1	3.67	4.07	4.95
54414 U	150	73	110	155	65.5	69.1	74.5	24	19.5	28.5	112	110	2	1	8.99	9.12	11.3

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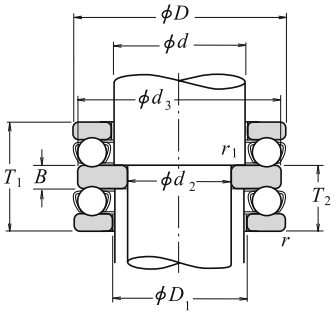
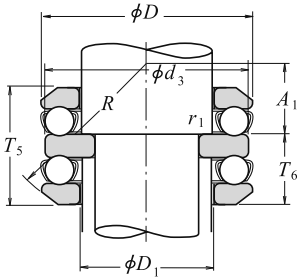
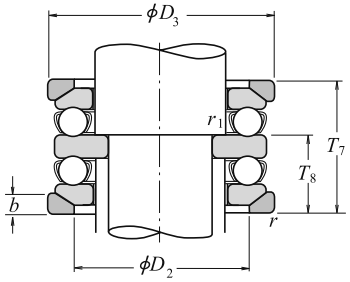
Delik Çapı 60 – 130 mm



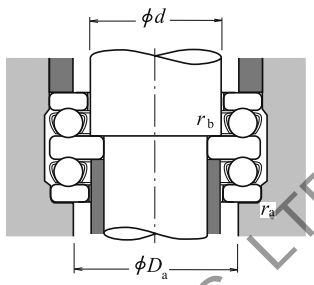
Düz Yataklı

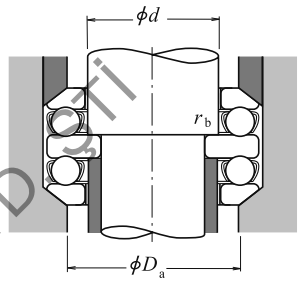


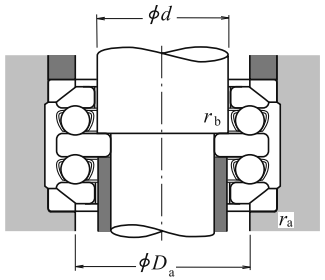
Oynak Yataklı



Oynak Yatak Pullu







Temel Ölçüler (mm)								Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman Numaraları	
d_2	d	D	T_1	T_5	T_7	r min.	r_1 min.	C_a	C_{0a}	C_a	C_{0a}	Gres	Yağ	Düz Yataklı	Oynak Yataklı
60	75	110	47	49.6	57	1	1	78 000	209 000	7 950	21 300	1 800	2 600	**52215**	**54215**
	75	135	79	87.2	95	1.5	1	159 000	365 000	16 200	37 500	1 200	1 800	**52315**	**54315**
	75	160	115	123	135	2	1	254 000	560 000	25 900	57 000	900	1 400	**52415**	**54415**
65	80	115	48	51	58	1	1	79 000	218 000	8 050	22 300	1 700	2 600	**52216**	**54216**
	80	140	79	86.2	95	1.5	1	164 000	395 000	16 700	40 000	1 200	1 800	**52316**	**54316**
	80	170	120	128.4	140	2.1	1	272 000	620 000	27 800	63 500	850	1 300	**52416**	**54416**
	85	180	128	138	150	2.1	1.1	310 000	755 000	31 500	77 000	800	1 200	**52417 X**	**54417 X**
70	85	125	55	59.2	67	1	1	96 000	264 000	9 800	26 900	1 500	2 200	**52217**	**54217**
	85	150	87	95.2	105	1.5	1	207 000	490 000	21 100	50 000	1 100	1 600	**52317**	**54317**
	90	190	135	143.4	157	2.1	1.1	330 000	825 000	33 500	84 000	750	1 100	**52418 X**	**54418 X**
75	90	135	62	69	76	1.1	1	114 000	310 000	11 600	31 500	1 400	2 000	**52218**	**54218**
	90	155	88	97.2	106	1.5	1	214 000	525 000	21 900	53 500	1 100	1 600	**52318**	**54318**
80	100	210	150	160	176	3	1.1	370 000	985 000	38 000	100 000	670	1 000	**52420 X**	**54420 X**
85	100	150	67	72.8	81	1.1	1	135 000	375 000	13 700	38 500	1 300	1 900	**52220**	**54220**
	100	170	97	105.4	115	1.5	1	239 000	595 000	24 300	61 000	950	1 500	**52320**	**54320**
90	110	230	166	—	—	3	1.1	415 000	1 150 000	42 000	118 000	600	900	**52422 X**	—
95	110	160	67	71.4	81	1.1	1	136 000	395 000	13 900	40 000	1 200	1 800	**52222**	**54222**
	110	190	110	118.4	128	2	1	282 000	755 000	28 800	77 000	850	1 300	**52322 X**	**54322 X**
	120	250	177	—	—	4	1.5	515 000	1 540 000	52 500	157 000	560	850	**52424 X**	—
100	120	170	68	71.6	82	1.1	1.1	141 000	430 000	14 400	44 000	1 200	1 800	**52224**	**54224**
	120	210	123	131.2	143	2.1	1.1	330 000	930 000	33 500	95 000	750	1 100	**52324 X**	**54324 X**
	130	270	192	—	—	4	1.5	525 000	1 590 000	53 500	162 000	530	800	**52426 X**	—
110	130	190	80	85.8	96	1.5	1.1	183 000	550 000	18 700	56 000	1 000	1 500	**52226 X**	**54226 X**
	130	225	130	—	—	2.1	1.1	350 000	1 030 000	35 500	105 000	710	1 100	**52326 X**	—
	140	280	196	—	—	4	1.5	550 000	1 750 000	56 500	178 000	500	750	**52428 X**	—
120	140	200	81	86.2	99	1.5	1.1	186 000	575 000	18 900	59 000	1 000	1 500	**52228 X**	**54228 X**
	140	240	140	—	—	2.1	1.1	370 000	1 130 000	37 500	115 000	670	1 000	**52328 X**	—
	150	300	209	—	—	4	2	620 000	2 010 000	63 000	205 000	480	710	**52430 X**	—
130	150	215	89	95.6	109	1.5	1.1	238 000	735 000	24 300	75 000	900	1 300	**52230 X**	**54230 X**
	150	250	140	—	—	2.1	1.1	380 000	1 200 000	39 000	123 000	630	950	**52330 X**	—
	160	320	226	—	—	5	2	650 000	2 210 000	66 000	226 000	430	630	**52432 X**	—

Oynak Yatak Pullu	Ölçüler (mm)											Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg) yaklaşık		
	d_3	D_1	D_2	D_3	T_2	T_6	T_8	B	b	A_1	R	D_a maks.	r_a maks.	r_b maks.	Düz Yataklı	Oynak Yataklı	Oynak Yatak Pullu
54215 U	110	77	92	115	28.5	29.8	33.5	10	9.5	47.5	90	92	1	1	1.54	1.66	2.06
54315 U	135	77	105	140	48.5	52.6	56.5	18	15	32.5	100	105	1.5	1	4.74	5.14	6.38
54415 U	160	78	115	165	70.5	74.5	80.5	26	21	36.5	125	115	2	1	10.8	11	13.7
54216 U	115	82	98	120	29	30.5	34	10	10	45	90	98	1	1	1.66	1.78	2.21
54316 U	140	82	110	145	48.5	52.1	56.5	18	15	45.5	112	110	1.5	1	4.99	5.39	6.61
54416 U	170	83	125	175	73.5	77.7	83.5	27	22	30.5	125	125	2	1	12.6	12.8	16
54417 XU	179.5	88	130	185	78.5	83.5	89.5	29	23	40.5	140	130	2	1	15.4	15.8	19.5
54217 U	125	88	105	130	33.5	35.6	39.5	12	11	49.5	100	105	1	1	2.26	2.45	3.02
54317 U	150	88	115	155	53	57.1	62	19	17.5	39	112	115	1.5	1	6.38	6.8	10.5
54418 XU	189.5	93	140	195	82.5	86.7	93.5	30	25.5	34.5	140	140	2	1	17.5	18.1	22.5
54218 U	135	93	110	140	38	41.5	45	14	13.5	42	100	110	1	1	3.09	3.42	4.39
54318 U	155	93	120	160	53.5	58.1	62.5	19	18	36.5	112	120	1.5	1	6.79	7.33	9.29
54420 XU	209.5	103	155	220	91.5	96.5	104.5	33	27	43.5	160	155	2.5	1	26.8	27.2	33.4
54220 U	150	103	125	155	41	43.9	48	15	14	49	112	125	1	1	4.08	4.54	5.64
54320 U	170	103	135	175	59	63.2	68	21	18	42	125	135	1.5	1	8.82	9.47	11.6
—	229	113	—	—	101.5	—	—	37	—	—	—	159	2.5	1	35.6	—	—
54222 U	160	113	135	165	41	43.2	48	15	14	62	125	135	1	1	4.39	4.83	5.94
54322 XU	189.5	113	150	195	67	71.2	76	24	20.5	47	140	150	2	1	12.7	13.5	16.6
—	249	123	—	—	108.5	—	—	40	—	—	—	174	3	1.5	47.6	—	—
54224 U	170	123	145	175	41.5	43.3	48.5	15	15	58.5	125	145	1	1	4.92	5.4	6.68
54324 XU	209.5	123	165	220	75	79.1	85	27	22	58	160	165	2	1	17.6	16.4	22.9
—	269	134	—	—	117	—	—	42	—	—	—	188	3	1.5	57.8	—	—
54226 XU	189.5	133	160	195	49	51.9	57	18	17	63	140	160	1.5	1	7.43	8.24	10.2
—	224	134	—	—	80	—	—	30	—	—	—	169	2	1	21.5	—	—
—	279	144	—	—	120	—	—	44	—	—	—	198	3	1.5	62.4	—	—
54228 XU	199.5	143	170	210	49.5	52.1	58.5	18	17	83.5	160	170	1.5	1	8.01	8.87	11.2
—	239	144	—	—	85.5	—	—	31	—	—	—	181	2	1	24.8	—	—
—	299	153	—	—	127.5	—	—	46	—	—	—	212	3	2	77.8	—	—
54230 XU	214.5	153	180	225	54.5	57.8	64.5	20	20.5	74.5	160	180	1.5	1	10.4	11.5	15
—	249	154	—	—	85.5	—	—	31	—	—	—	191	2	1	30.3	—	—
—	319	164	—	—	138	—	—	50	—	—	—	226	4	2	93.6	—	—

Not (1) X işaretli tüm rulman numaralarının merkez pullarının dış çapı d_3, yatak pullarının dış çapı D'den daha küçüktür.

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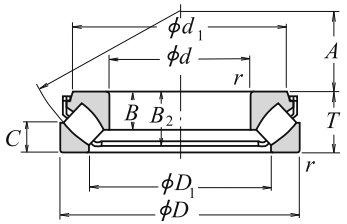

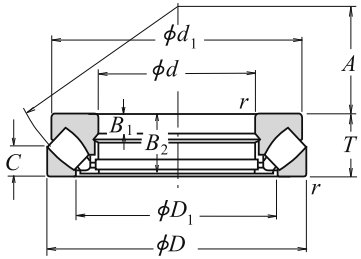

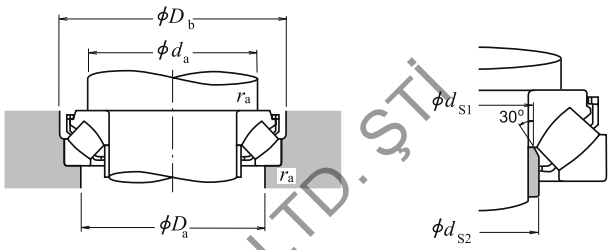

Dinamik Eşdeğer Yük

$P = 1.2F_r + F_a$

Statik Eşdeğer Yük

$P_0 = 2.8F_r + F_a$

Ancak, $F_r / F_a \leq 0.55$ yerine getirilmelidir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})	Rulman Numaraları	Ölçüler (mm)						Ara Manşonu Ölçüleri (mm)		Dayanak ve Dolgu Ölçüleri (mm)				Kütle (kg)
d	D	T	r min.	C_a	C_{0a}	C_a	C_{0a}	Yağ		d_1	D_1	B, B_1	B_2	C	A	d_{S1} maks.	d_{S2} maks.	d_a(1) min.	D_a maks.	D_b min.	r_a maks.	yaklaşık
60	130	42	1.5	330 000	885 000	33 500	90 000	2 600	**29412 E**	114.5	89	27	38	20	38	67	67	90	108	133	1.5	2.55
65	140	45	2	405 000	1 100 000	41 500	112 000	2 400	**29413 E**	121.5	93	29.5	40.5	22	42	72	72	100	115	143	2	3.2
70	150	48	2	450 000	1 240 000	46 000	126 000	2 400	**29414 E**	131.5	102	31	43	24	44	78	78	105	125	153	2	3.9
75	160	51	2	515 000	1 430 000	52 500	146 000	2 200	**29415 E**	138	107	33.5	46	25	47	83	83	115	132	163	2	4.65
80	170	54	2.1	575 000	1 600 000	58 500	163 000	2 000	**29416 E**	148	114.5	35	48.5	27	50	89	89	120	140	173	2	5.55
85	150	39	1.5	330 000	1 040 000	34 000	106 000	2 400	**29317 E**	134.5	112	24.5	35.5	19	50	91	91	115	135	153	1.5	2.7
	180	58	2.1	630 000	1 760 000	64 500	179 000	1 900	**29417 E**	156.5	124	37	51.5	28	54	95	95	130	150	183	2	6.55
90	155	39	1.5	350 000	1 080 000	35 500	110 000	2 200	**29318 E**	139.5	118	24.5	35	19	52	97	97	120	140	158	1.5	2.83
	190	60	2.1	695 000	1 950 000	70 500	199 000	1 800	**29418 E**	165.5	129.5	39	54.5	29	56	100	100	135	157	193	2	7.55
100	170	42	1.5	410 000	1 280 000	41 500	131 000	2 000	**29320 E**	152	128	26.2	38	20.8	58	107	107	130	150	173	1.5	3.6
	210	67	3	840 000	2 400 000	86 000	245 000	1 600	**29420 E**	185	144	43	59.5	33	62	111	111	150	175	214	2.5	10.3
110	190	48	2	530 000	1 710 000	54 000	174 000	1 800	**29322 E**	169.5	142.5	30.3	43.5	24	64	117	117	145	165	193	2	5.25
	230	73	3	1 010 000	2 930 000	103 000	299 000	1 500	**29422 E**	200	157	47	64.5	36	69	121	129	165	190	234	2.5	13.3
120	210	54	2.1	645 000	2 100 000	65 500	214 000	1 600	**29324 E**	187.5	156.5	34	48.5	27	70	130	130	160	180	214	2	7.3
	250	78	4	1 160 000	3 400 000	119 000	350 000	1 400	**29424 E**	215	171	50.5	69.5	38	74	132	142	180	205	254	3	16.6
130	225	58	2.1	740 000	2 450 000	75 500	250 000	1 500	**29326 E**	203.5	168.5	37	53.5	28	76	141	143	170	195	229	2	8.95
	270	85	4	1 330 000	3 900 000	135 000	400 000	1 200	**29426 E**	235	185	54	74.5	42	81	143	153	195	225	275	3	21.1
140	240	60	2.1	840 000	2 810 000	85 500	287 000	1 400	**29328 E**	216.5	179	38.5	54	30	82	148	154	185	205	244	2	10.4
	280	85	4	1 370 000	4 200 000	140 000	425 000	1 200	**29428 E**	244.5	195.5	54	74.5	42	86	153	162	205	235	285	3	22.2
150	250	60	2.1	870 000	2 900 000	89 000	296 000	1 400	**29330 E**	224	190	38	54.5	29	87	158	163	195	215	254	2	10.8
	300	90	4	1 580 000	4 900 000	162 000	500 000	1 100	**29430 E**	266	209	58	81	44	92	164	175	220	250	306	3	27.3
160	270	67	3	1 010 000	3 400 000	103 000	345 000	1 300	**29332 E**	243	203	42	60	33	92	169	176	210	235	275	2.5	14.3
	320	95	5	1 740 000	5 400 000	178 000	550 000	1 100	**29432 E**	278	224.5	60.5	84.5	46	99	175	189	230	265	326	4	32.1
170	280	67	3	1 050 000	3 500 000	107 000	355 000	1 200	**29334 E**	252	214.5	42.2	60.5	32	96	178	188	220	245	285	2.5	14.8
	340	103	5	1 680 000	5 800 000	171 000	595 000	1 000	**29434**	310	243	37	99	50	104	—	—	245	285	—	4	43.5
180	300	73	3	1 230 000	4 200 000	125 000	430 000	1 100	**29336 E**	270	227	46	65.5	36	103	189	195	235	260	306	2.5	19
	360	109	5	1 870 000	6 500 000	190 000	660 000	900	**29436**	330	255	39	105	52	110	—	—	260	300	—	4	52
190	320	78	4	1 370 000	4 700 000	140 000	480 000	1 100	**29338 E**	288.5	244	49	69	38	110	200	211	250	275	326	3	23
	380	115	5	2 100 000	7 450 000	215 000	760 000	850	**29438**	345	271	41	111	55	117	—	—	275	320	—	4	60
200	280	48	2	540 000	2 310 000	55 000	236 000	1 500	**29240**	266	236	15	46	24	108	—	—	235	255	—	2	8.55
	340	85	4	1 570 000	5 450 000	160 000	555 000	1 000	**29340 E**	306.5	257	53.5	75	41	116	211	224	265	295	346	3	28.5
	400	122	5	2 290 000	8 150 000	234 000	835 000	800	**29440**	365	280	43	117	59	122	—	—	290	335	—	4	69

Not (1) Ağır yük uygulamaları için, mil pulu omzunu desteklemek için yeterince büyük olan bir d_a değeri seçilmelidir.

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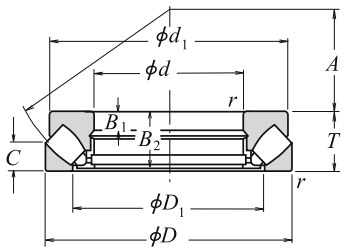

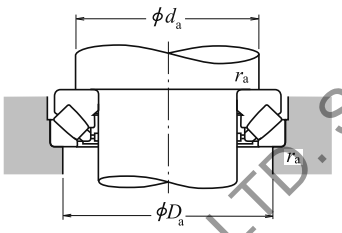

Dinamik Eşdeğer Yük

$P = 1.2F_r + F_a$

Statik Eşdeğer Yük

$P_0 = 2.8F_r + F_a$

Ancak, $F_r / F_a \leq 0.55$ yerine getirilmelidir.

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})	Rulman Numaraları	Ölçüler (mm)						Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg)
d	D	T	r min.	C_a	C_{0a}	C_a	C_{0a}	Yağ		d_1	D_1	B_1	B_2	C	A	d_a(1) min.	D_a maks.	r_a maks.	yaklaşık
220	300	48	2	560 000	2 500 000	57 000	255 000	1 400	**29244**	285	254	15	46	24	117	260	275	2	9.2
	360	85	4	1 340 000	5 200 000	137 000	530 000	950	**29344**	335	280	29	81	41	125	285	315	3	33
	420	122	6	2 350 000	8 650 000	240 000	880 000	800	**29444**	385	308	43	117	58	132	310	355	5	74
240	340	60	2.1	800 000	3 450 000	82 000	350 000	1 200	**29248**	325	283	19	57	30	130	285	305	2	16.5
	380	85	4	1 360 000	5 400 000	139 000	550 000	950	**29348**	355	300	29	81	41	135	300	330	3	35.5
	440	122	6	2 420 000	9 100 000	247 000	930 000	750	**29448**	405	326	43	117	59	142	330	375	5	79
260	360	60	2.1	855 000	3 850 000	87 500	395 000	1 200	**29252**	345	302	19	57	30	139	305	325	2	18
	420	95	5	1 700 000	6 800 000	173 000	695 000	800	**29352**	390	329	32	91	45	148	330	365	4	48.5
	480	132	6	2 820 000	10 700 000	287 000	1 090 000	710	**29452**	445	357	48	127	64	154	360	405	5	105
280	380	60	2.1	885 000	4 100 000	90 000	420 000	1 100	**29256**	365	323	19	57	30	150	325	345	2	19
	440	95	5	1 830 000	7 650 000	187 000	780 000	800	**29356**	410	348	32	91	46	158	350	390	4	52.5
	520	145	6	3 400 000	13 100 000	345 000	1 330 000	630	**29456**	480	384	52	140	68	166	390	440	5	132
	520	145	6	3 950 000	14 900 000	400 000	1 520 000	630	**29456 EM**	480	380	52	140	70	166	410	445	5	134
300	420	73	3	1 160 000	5 150 000	118 000	525 000	950	**29260**	400	353	21	69	38	162	355	380	2.5	30
	480	109	5	2 190 000	9 100 000	224 000	925 000	710	**29360**	450	379	37	105	50	168	380	420	4	74
	540	145	6	3 500 000	13 700 000	355 000	1 390 000	630	**29460**	500	402	52	140	70	175	410	460	5	140
320	440	73	3	1 190 000	5 450 000	122 000	555 000	950	**29264**	420	372	21	69	38	172	375	400	2.5	32.5
	500	109	5	2 230 000	9 400 000	227 000	960 000	670	**29364**	470	399	37	105	53	180	400	440	4	77
	580	155	7.5	3 650 000	14 600 000	370 000	1 490 000	560	**29464**	555	436	55	149	75	191	435	495	6	175
340	460	73	3	1 230 000	5 750 000	125 000	590 000	900	**29268**	440	395	21	69	37	183	395	420	2.5	33.5
	540	122	5	2 640 000	11 200 000	269 000	1 140 000	630	**29368**	510	428	41	117	59	192	430	470	4	103
	620	170	7.5	4 400 000	17 400 000	450 000	1 780 000	530	**29468**	590	462	61	164	82	201	465	530	6	218
360	500	85	4	1 550 000	7 300 000	158 000	745 000	800	**29272**	480	423	25	81	44	194	420	455	3	51
	560	122	5	2 670 000	11 500 000	272 000	1 180 000	600	**29372**	525	448	41	117	59	202	450	495	4	107
	640	170	7.5	4 200 000	17 200 000	430 000	1 750 000	500	**29472**	610	480	61	164	82	210	485	550	6	228
	640	170	7.5	5 450 000	20 400 000	555 000	2 800 000	500	**29472 EM**	580	474	61	164	83	210	495	550	6	220
380	520	85	4	1 620 000	7 800 000	165 000	795 000	800	**29276**	496	441	27	81	42	202	440	475	3	52
	600	132	6	3 300 000	14 500 000	335 000	1 480 000	560	**29376**	568	477	44	127	63	216	480	525	5	140
	670	175	7.5	4 800 000	19 500 000	490 000	1 990 000	480	**29476**	640	504	63	168	85	230	510	575	6	254
400	540	85	4	1 640 000	8 000 000	167 000	815 000	750	**29280**	517	460	27	81	42	212	460	490	3	55
	620	132	6	3 250 000	14 500 000	330 000	1 480 000	530	**29380**	590	494	44	127	64	225	500	550	5	150
	710	185	7.5	5 400 000	22 100 000	550 000	2 250 000	450	**29480**	680	536	67	178	89	236	540	610	6	306
420	580	95	5	2 010 000	9 800 000	205 000	1 000 000	670	**29284**	553	489	30	91	46	225	490	525	4	72
	650	140	6	3 500 000	15 700 000	355 000	1 600 000	500	**29384**	620	520	48	135	68	235	525	575	5	170
	730	185	7.5	5 650 000	23 500 000	575 000	2 400 000	450	**29484**	700	556	67	178	89	244	560	630	6	323

Not (1) Ağır yük uygulamaları için, mil pulu omzunu desteklemek için yeterince büyük olan bir d_a değeri seçilmelidir.

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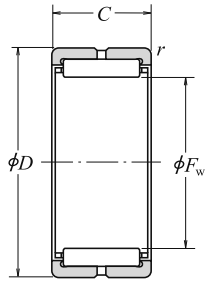
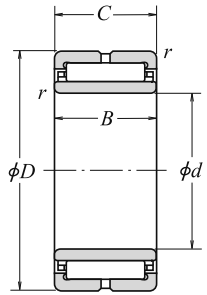
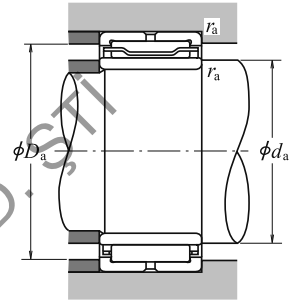
RNA • NA

Dış Teğet Çember Çapı 63 – 120 mm



İç bileziksiz
RNA





İç Bilezikli
NA

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak⁻¹)		Rulman
F_w	D	C	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	İç Bileziksiz
63	80	25	1	53 500	87 500	5 450	8 950	4 000	6 700	**RNA 4911**
	80	34	1	73 500	133 000	7 500	13 600	4 000	6 700	**RNA 5911**
	80	45	1	93 500	181 000	9 550	18 500	4 000	6 700	**RNA 6911**
68	85	25	1	56 000	95 500	5 700	9 750	3 800	6 300	**RNA 4912**
	85	34	1	77 500	145 000	7 900	14 800	3 800	6 300	**RNA 5912**
	85	45	1	98 000	197 000	10 000	20 100	3 800	6 300	**RNA 6912**
72	90	25	1	58 500	103 000	5 950	10 500	3 600	5 600	**RNA 4913**
	90	34	1	81 000	157 000	8 250	16 000	3 600	5 600	**RNA 5913**
	90	45	1	103 000	213 000	10 500	21 800	3 600	5 600	**RNA 6913**
80	100	30	1	80 500	143 000	8 200	14 600	3 200	5 300	**RNA 4914**
	100	40	1	107 000	206 000	10 900	21 000	3 200	5 300	**RNA 5914**
	100	54	1	143 000	298 000	14 500	30 500	3 200	5 300	**RNA 6914**
85	105	30	1	84 000	155 000	8 600	15 800	3 000	5 000	**RNA 4915**
	105	40	1	112 000	222 000	11 400	22 700	3 000	5 000	**RNA 5915**
	105	54	1	149 000	325 000	15 200	33 000	3 000	5 000	**RNA 6915**
90	110	30	1	87 500	166 000	8 950	17 000	2 800	4 500	**RNA 4916**
	110	40	1	116 000	239 000	11 900	24 400	2 800	4 500	**RNA 5916**
	110	54	1	157 000	350 000	16 000	36 000	2 800	4 500	**RNA 6916**
100	120	35	1.1	104 000	214 000	10 600	21 800	2 600	4 000	**RNA 4917**
	120	46	1.1	138 000	310 000	14 100	31 500	2 600	4 000	**RNA 5917**
	120	63	1.1	174 000	415 000	17 800	42 500	2 600	4 000	**RNA 6917**
105	125	35	1.1	108 000	228 000	11 000	23 300	2 400	4 000	**RNA 4918**
	125	46	1.1	143 000	330 000	14 600	33 500	2 400	4 000	**RNA 5918**
	125	63	1.1	181 000	445 000	18 400	45 000	2 400	4 000	**RNA 6918**
110	130	35	1.1	111 000	242 000	11 400	24 700	2 200	3 800	**RNA 4919**
	130	46	1.1	148 000	350 000	15 100	35 500	2 200	3 800	**RNA 5919**
	130	63	1.1	187 000	470 000	19 100	48 000	2 200	3 800	**RNA 6919**
115	140	40	1.1	144 000	295 000	14 700	30 000	2 200	3 600	**RNA 4920**
	140	54	1.1	193 000	430 000	19 700	43 500	2 200	3 600	**RNA 5920**
120	140	30	1	99 500	214 000	10 100	21 900	2 000	3 400	**RNA 4822**

Numaraları	Temel Ölçüler (mm)		Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg) yaklaşık	
İç Bilezikli	d	B	d_a min.	D_a maks.	r_a maks.	İç Bileziksiz	İç Bilezikli
NA 4911	55	25	60	75	1	0.26	0.40
NA 5911	55	34	60	75	1	0.37	0.56
NA 6911	55	45	60	75	1	0.475	0.73
NA 4912	60	25	65	80	1	0.28	0.435
NA 5912	60	34	65	80	1	0.415	0.625
NA 6912	60	45	65	80	1	0.485	0.76
NA 4913	65	25	70	85	1	0.32	0.465
NA 5913	65	34	70	85	1	0.48	0.675
NA 6913	65	45	70	85	1	0.53	0.79
NA 4914	70	30	75	95	1	0.47	0.74
NA 5914	70	40	75	95	1	0.69	1.05
NA 6914	70	54	75	95	1	0.89	1.4
NA 4915	75	30	80	100	1	0.5	0.79
NA 5915	75	40	80	100	1	0.735	1.1
NA 6915	75	54	80	100	1	0.96	1.5
NA 4916	80	30	85	105	1	0.53	0.835
NA 5916	80	40	85	105	1	0.75	1.15
NA 6916	80	54	85	105	1	0.99	1.55
NA 4917	85	35	91.5	113.5	1	0.68	1.25
NA 5917	85	46	91.5	113.5	1	0.99	1.75
NA 6917	85	63	91.5	113.5	1	1.2	2.25
NA 4918	90	35	96.5	118.5	1	0.72	1.35
NA 5918	90	46	96.5	118.5	1	1.05	1.85
NA 6918	90	63	96.5	118.5	1	1.35	2.45
NA 4919	95	35	101.5	123.5	1	0.74	1.4
NA 5919	95	46	101.5	123.5	1	1.15	2.0
NA 6919	95	63	101.5	123.5	1	1.5	2.65
NA 4920	100	40	106.5	133.5	1	1.15	1.95
NA 5920	100	54	106.5	133.5	1	1.8	2.85
NA 4822	110	30	115	135	1	0.67	1.1

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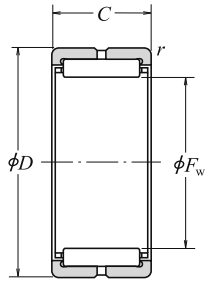
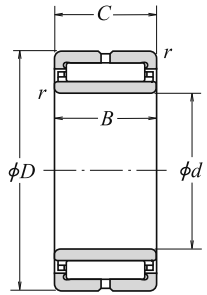
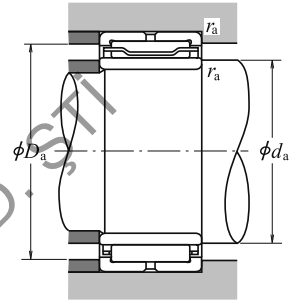
RNA • NA

Dış Teğet Çember Çapı 63 – 120 mm



İç bileziksiz
RNA





İç Bilezikli
NA

Temel Ölçüler (mm)				Temel Yük Değerleri (N)		{kgf}		Limit Hızları (dak^{-1})		Rulman	Numaraları	Temel Ölçüler (mm)		Dayanak ve Dolgu Ölçüleri (mm)			Kütle (kg) yaklaşık	
F_W	D	C	r min.	C_r	C_{0r}	C_r	C_{0r}	Gres	Yağ	İç Bileziksiz	İç Bilezikli	d	B	d_a min.	D_a maks.	r_a maks.	İç Bileziksiz	İç Bilezikli
125	150	40	1.1	149 000	315 000	15 200	32 500	2 000	3 200	**RNA 4922**	**NA 4922**	110	40	116.5	143.5	1	1.25	2.1
	150	54	1.1	200 000	460 000	20 300	47 000	2 000	3 200	**RNA 5922**	**NA 5922**	110	54	116.5	143.5	1	1.95	3.05
130	150	30	1	105 000	238 000	10 700	24 300	1 900	3 200	**RNA 4824**	**NA 4824**	120	30	125	145	1	0.71	1.15
135	165	45	1.1	192 000	395 000	19 600	40 500	1 900	3 000	**RNA 4924**	**NA 4924**	120	45	126.5	158.5	1	1.9	2.9
	165	60	1.1	253 000	565 000	25 800	58 000	1 900	3 000	**RNA 5924**	**NA 5924**	120	60	126.5	158.5	1	2.7	4.05
145	165	35	1.1	127 000	315 000	12 900	32 000	1 700	2 800	**RNA 4826**	**NA 4826**	130	35	136.5	158.5	1	0.92	1.8
150	180	50	1.5	228 000	515 000	23 200	52 500	1 700	2 800	**RNA 4926**	**NA 4926**	130	50	138	172	1.5	2.3	4.0
	180	67	1.5	299 000	725 000	30 500	74 000	1 700	2 800	**RNA 5926**	**NA 5926**	130	67	138	172	1.5	3.3	5.55
155	175	35	1.1	133 000	340 000	13 600	35 000	1 600	2 600	**RNA 4828**	**NA 4828**	140	35	146.5	168.5	1	0.98	1.9
160	190	50	1.5	235 000	545 000	24 000	55 500	1 600	2 600	**RNA 4928**	**NA 4928**	140	50	148	182	1.5	2.45	4.25
	190	67	1.5	310 000	775 000	31 500	79 000	1 600	2 600	**RNA 5928**	**NA 5928**	140	67	148	182	1.5	3.55	6.0
165	190	40	1.1	180 000	440 000	18 300	45 000	1 500	2 400	**RNA 4830**	**NA 4830**	150	40	156.5	183.5	1	1.6	2.75
175	200	40	1.1	184 000	465 000	18 700	47 000	1 400	2 200	**RNA 4832**	**NA 4832**	160	40	166.5	193.5	1	1.75	2.95
185	215	45	1.1	224 000	540 000	22 900	55 000	1 400	2 200	**RNA 4834**	**NA 4834**	170	45	176.5	208.5	1	2.55	4.0
195	225	45	1.1	230 000	570 000	23 500	58 000	1 300	2 000	**RNA 4836**	**NA 4836**	180	45	186.5	218.5	1	2.65	4.2
210	240	50	1.5	268 000	705 000	27 300	72 000	1 200	1 900	**RNA 4838**	**NA 4838**	190	50	198	232	1.5	3.2	5.6
220	250	50	1.5	274 000	740 000	27 900	75 500	1 100	1 800	**RNA 4840**	**NA 4840**	200	50	208	242	1.5	3.35	5.9
240	270	50	1.5	286 000	805 000	29 100	82 000	1 000	1 700	**RNA 4844**	**NA 4844**	220	50	228	262	1.5	3.65	6.45
265	300	60	2	375 000	1 070 000	38 500	109 000	950	1 500	**RNA 4848**	**NA 4848**	240	60	249	291	2	5.45	10
285	320	60	2	395 000	1 160 000	40 000	118 000	900	1 400	**RNA 4852**	**NA 4852**	260	60	269	311	2	5.9	11
305	350	69	2	510 000	1 390 000	52 000	142 000	800	1 300	**RNA 4856**	**NA 4856**	280	69	289	341	2	9.5	15.5
330	380	80	2.1	660 000	1 810 000	67 500	185 000	750	1 200	**RNA 4860**	**NA 4860**	300	80	311	369	2	13	22
350	400	80	2.1	675 000	1 900 000	69 000	194 000	710	1 100	**RNA 4864**	**NA 4864**	320	80	331	389	2	13.5	23.5
370	420	80	2.1	690 000	1 990 000	70 500	203 000	670	1 100	**RNA 4868**	**NA 4868**	340	80	351	409	2	14	24.5
390	440	80	2.1	705 000	2 080 000	72 000	212 000	630	1 000	**RNA 4872**	**NA 4872**	360	80	371	429	2	15	26

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