

FLT BEARINGS



TURNING IDEAS



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All the factories manufacturing bearings with FŁT sign are certified to ISO9001 (organization of manufacture and control meets the requirements of ISO 9001)

GENERAL INFORMATION

Materials:

Bearing rings and rolling elements (balls, cylindrical rollers, taper rollers, spherical rollers, needles) are produced of high chrome carbon steel – 100Cr6 or 100Cr6MnSi6-4 of the composition according to standard ISO 683- 17.

Bearing cages are produced of low carbon steel, brass or polyamide. However, on bearings of standard executions pressed steel cages are used.

Dimensions:

Main dimensions of the bearing (d,D,B,C,T,r) are consistent with standard ISO R15, ISO R104 and ISO R355. Dimensions of special bearings are not standardized.

Tolerances:

Tolerances and rotation accuracy bearing rings are consistent with standard ISO492, ISO578, ISO199 and ISO582. Bearings in standard execution are produced in tolerance class P0.

Internal clearance:

Clearance of bearings are consistent with standard ISO5753. Bearings in standard execution are produced with clearance C0.

Basic load rating:

C and Co value rating in catalogue are calculated in accordance with ISO281 (C- dynamic load rating) and ISO76 (Co – static load rating)

Basic rating life:

L₁₀ – basic rating life should be calculated in accordance with standard ISO281.

As a bearing supplier FŁT Polska Sp. z o.o. offers a service of bearing selection for certain application and within it can offer also:

- bearing life calculation done by means of Romax Technology Co. software
- guidelines for the proper assembly of bearings in the device.

RomaxDesigner® is an advanced and comprehensive software that offers analysis of the entire drive transmission systems, gearboxes, bearings, and their components.

This software makes it possible to build a complete three-dimensional (3D) model containing all of its significant elements. As a result, we are able to analyze the forces, torques, and stresses, which are active within it, in a precise and prompt manner.

Wszystkie fabryki produkujące łożyska ze znakiem FŁT posiadają certyfikat zgodności z ISO9001 (organizacja produkcji i kontroli spełnia wymagania normy ISO 9001)

INFORMACJE OGÓLNE

Materiały:

Pierścienie łożysk oraz elementy toczne (kulki, wałeczki walcowe, wałeczki stożkowe, baryłki, igiełki) są wykonywane ze stali chromowej – łożyskowej 100Cr6 lub 100Cr6MnSi6-4 o składnikach zgodnych z wymaganiem normy ISO 683-17.

Koszyki do łożysk są wykonywane ze stali niskowęglowej, mosiądzu lub poliamidu.
Łożyska w wykonaniu standardowym mają koszyki stalowe – tłoczone.

Wymiary:

Wymiary główne łożysk (d,D,B,C,T,r) są zgodne z ustaleniami norm ISO R15, ISO R104 oraz ISO R355.
Wymiary łożysk specjalnych nie są znormalizowane.

Tolerancje:

Tolerancje wymiarów głównych oraz dokładności obrotu pierścieni łożysk są zgodne z ustaleniami normy ISO492, ISO578, ISO199 i ISO582.
Łożyska w wykonaniu standardowym wykonywane są w klasie dokładności P0.

Luzy łożysk:

Luzy łożysk są zgodne z wymaganiami ustalonymi w normie ISO5753.
Łożyska w wykonaniu standardowym wykonywane są z luzem normalnym C0.

Nośność spoczynkowa i ruchowa:

Wartości nośności C i C₀ podane w katalogu są obliczone wg norm ISO281 (nośność ruchowa – C) i ISO76 (nośność spoczynkowa - C₀).

Trwałość łożysk „L”:

Obliczenia trwałości łożysk L₁₀ powinny być przeprowadzane zgodnie z normą ISO281.

FŁT Polska Sp. z o.o. w ramach usługi doboru i dostawy łożysk do określonych zastosowań może zaoferować również:

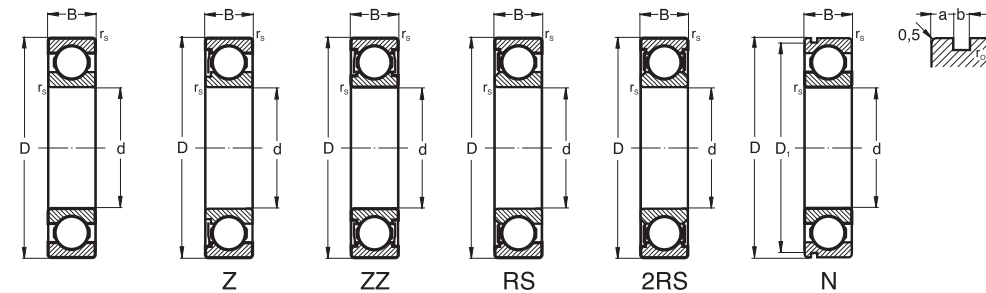
- obliczenia trwałości łożysk z wykorzystaniem oprogramowania firmy Romax Technology
- wytyczne dotyczące właściwego montażu łożysk w urządzeniu

RomaxDesigner® to zaawansowane i kompleksowe oprogramowanie oferujące analizę całych układów przeniesienia napędów, skrzyń biegów, łożysk, i ich komponentów.

Program pozwala na skonstruowanie kompletnego trójwymiarowego (3D) modelu zawierającego wszystkie istotne jego elementy a w rezultacie dokładną i szybką analizę działających w nim sił, momentów sił i naprężeń.

DEEP GROOVE BALL BEARINGS

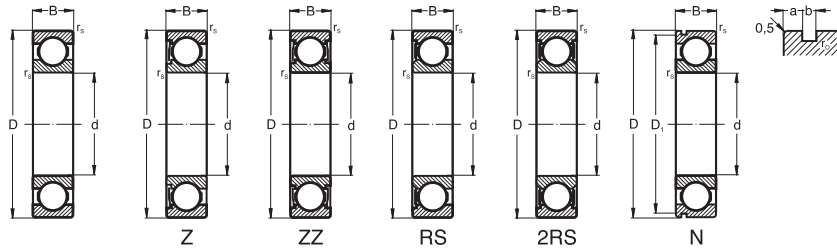




SUFFIX	Characters placed after basic designation
	Znaki umieszczone za oznaczeniem podstawowym
Z	metal shield at one side of the bearing ● blaszka ochronna stalowa z jednej strony łożyska
ZZ	metal shields at both sides of the bearing ● dwie blaszki ochronne po obu stronach łożyska
RS	rubber seal at one side of the bearing ● uszczelka gumowa z jednej strony łożyska
2RS	rubber seals at both sides of the bearing ● dwie uszczelki gumowe z obu stron łożyska
N	snap ring groove in outer ring ● rowek na pierścieniu zewnętrznym pod pierścieniami osadcy
ZN	shield at one side of the bearing and snap ring groove at the other side ● blaszka ochronna z jednej strony i rowek na pierścieniu zewnętrznym z drugiej strony łożyska
M	machined brass cage ● koszyk masywny mosiężny
MA	machined brass cage centred on the outer ring ● koszyk masywny mosiężny prowadzony na zewnętrznym pierścieniu łożyska
TN	polyamid cage ● koszyk poliamidowy
P6	accuracy to ISO tolerance class 6 ● klasa dokładności P6 wg tolerancji ISO (wyższa niż normalna P0)
P5	accuracy to ISO tolerance class 5 ● klasa dokładności P5 wg tolerancji ISO (wyższa niż P6)
C0	standard clearance (not mentioned/marked on bearing) ● luz promieniowy normalny, nie oznacza się na łożyskach
C2	radial clearance less the normal ● luz promieniowy mniejszy od luzu normalnego -C0
C3	radial clearance greater than normal ● luz promieniowy większy od luzu normalnego -C0
C4	radial clearance greater than C3 ● luz promieniowy większy od luzu C3
P63	accuracy to ISO class P6 and clearance C3 ● łożysko w klasie dokładności P6 z luzem promieniowym C3

FŁT Deep groove ball bearings

łożyska kulkowe zwykłe

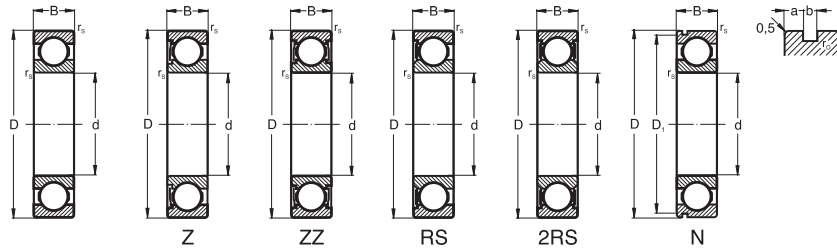


DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	BASIC DESIGNATION OZNACZENIE PODSTAWOWE	MODIFICATION ODMIANY					
d	D	B	r _s	D ₁	a	b	r ₀	dynamic dynamiczna C	static statyczna C ₀	grease* w smarze*	oil w oleju	~		Z	ZZ	RS	2RS	N	ZN
mm								kN		r/min		kg							
3	10	4	0.15					0.64	0.22	40000	48000	0.001	623		•				
4	13	5	0.2					0.98	0.30	48000	56000	0.003	624	•	•	•	•		
	16	5	0.3					1.73	0.67	34000	40000	0.006	634		•	•			
5	13	4	0.2					1.08	0.42	38000	45000	0.003	695		•				
	16	5	0.3					1.10	0.38	43000	50000	0.005	625	•	•	•	•		
	19	6	0.3					2.60	1.10	32000	38000	0.009	635		•				
6	15	5	0.2					1.48	0.60	38000	45000	0.004	696		•				
	17	6	0.3					1.95	0.72	38000	45000	0.007	606				•		
	19	6	0.3					2.24	0.92	36000	43000	0.009	626	•	•	•	•		
	22	7	0.3					2.54	1.36	30000	36000	0.003	636		•				
7	14	5	0.2					0.89	0.46	40000	45000	0.004	687		•				
	19	6	0.3					2.88	1.08	28000	36000	0.008	607	•	•	•	•		
	22	7	0.3					3.28	1.35	32000	38000	0.010	627	•	•	•	•		
8	16	5	0.3					1.31	0.53	36000	43000	0.003	688		•				
	19	6	0.3					1.32	0.54	36000	43000	0.007	698		•		•		
	22	7	0.3					3.30	1.40	32000	38000	0.012	608	•	•	•	•		
	24	8	0.3					3.35	1.40	28000	34000	0.017	628	•	•	•	•		
	28	9	0.3					4.30	1.98	28000	34000	0.021	638		•				
9	17	5	0.3					1.37	0.71	34000	40000	0.004	689		•				
	20	6	0.3					1.41	0.63	34000	37000	0.008	699		•				
	24	7	0.3					3.35	1.45	30000	36000	0.014	609	•	•	•	•		
	26	8	0.6					4.58	2.02	26000	32000	0.020	629	•	•	•	•		
10	19	5	0.3					1.40	0.75	34000	40000	0.005	6800		•				
	22	6	0.3					2.20	0.84	30000	36000	0.010	61900		•				
	26	8	0.3					4.58	2.02	28000	34000	0.019	6000	•	•	•	•		
	30	9	0.6	28.17	2.06	1.35	0.4	5.05	2.28	24000	30000	0.032	6200	•	•	•	•	•	
	35	11	0.6					7.65	3.49	20000	26000	0.058	6300	•	•	•	•		
12	21	5	0.3					1.52	0.67	30000	36000	0.006	61801		•		•		
	24	6	0.3					1.52	0.67	28000	34000	0.012	61901		•		•		
	28	8	0.3					5.10	2.40	26000	32000	0.022	6001	•	•	•	•		
	28	10	0.3					5.10	2.37	28000	32000	0.028	62001		•		•		
	32	10	0.6	30.15	2.06	1.35	0.4	6.90	3.20	22000	28000	0.037	6201	•	•	•	•	•	•
	32	14	0.6	34.77	2.06	1.35	0.4	6.90	3.20	19000	24000	0.052	62201		•		•		
	37	12	1.0					9.71	4.36	19000	24000	0.060	6301	•	•	•	•		
15	24	5	0.3					1.92	1.18	28000	34000	0.007	6802		•		•		
	28	7	0.3					1.65	0.80	24000	28000	0.017	61902		•		•		
	32	8	0.3					5.60	2.85	22000	28000	0.027	16002		•		•		
	32	9	0.3	30.15	2.06	1.35	0.4	5.60	2.85	22000	28000	0.030	6002	•	•	•	•		
	35	11	0.6	33.17	2.06	1.35	0.4	7.74	3.83	19000	24000	0.045	6202	•	•	•	•	•	•
	35	14	0.6					7.65	3.60	20000	24000	0.053	62202		•		•		
	42	13	1.0	39.75	2.06	1.35	0.4	11.37	5.50	17000	20000	0.082	6302	•	•	•	•		
17	26	5	0.3					2.81	1.72	24000	28000	0.008	61803		•		•		
	30	7	3.0					4.36	2.32	22000	28000	0.018	61903		•		•		
	35	8	0.3					6.00	3.25	19000	24000	0.030	16003		•		•		
	35	10	0.3	33.17	2.06	1.35	0.4	6.00	3.25	19000	24000	0.039	6003	•	•	•	•		
	40	12	0.6	38.10	2.06	1.35	0.4	9.57	4.86	17000	20000	0.065	6203	•	•	•	•	•	•
	47	14	1.0	44.60	2.46	1.35	0.4	12.80	6.68	16000	19000	0.115	6303	•	•	•	•		
	62	17	1.1	59.61	3.28	1.90	0.6	23.00	11.90	12000	15000	0.270	6403	•	•	•	•		

*Limiting speeds for bearings in RS and 2RS amount to only two-thirds of the values given in the Table

FŁT Deep groove ball bearings

łożyska kulkowe zwykłe

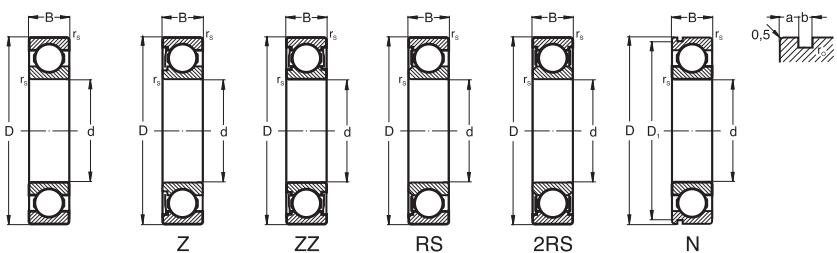


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d	D	B	r _s	D ₁	a	b	r _o	dynamic dynamiczna C	static statyczna C ₀	grease* w smarze*	oil w oleju	~		Z	ZZ	RS	2RS	N	ZN
mm								kN		r/min		kg							
20	32	7	0.3					3.45	2.24	17000	22000	0.018	61804	•					
	37	9	0.3					6.37	3.65	17000	22000	0.038	61904	•	•		•		
	42	8	0.3					7.93	4.46	18000	22000	0.050	16004						
	42	12	0.6	39.75	2.06	1.35	0.4	9.40	5.05	17000	20000	0.069	6004	•	•	•	•		
	47	14	1.0	44.60	2.46	1.35	0.4	12.80	6.68	15000	18000	0.106	6204	•	•	•	•	•	•
	47	18	1.0					12.70	6.55	10000	13000	0.131	62204			•	•		
	52	15	1.1	49.73	2.46	1.35	0.4	15.94	8.07	13000	16000	0.144	6304	•	•	•	•	•	•
72	19	1.1	68.81	3.28	1.90	0.6	30.05	15.00	10000	13000	0.400	6404							
25	37	7	0.3					3.80	2.80	19000	24000	0.021	61805		•				
	42	9	0.3					7.02	4.30	17000	22000	0.045	61905		•		•		
	47	8	0.3					9.07	5.28	14000	17000	0.060	16005	•	•				
	47	12	0.6	44.60	2.06	1.35	0.4	11.25	6.49	15000	18000	0.080	6005	•	•	•	•	•	
	52	15	1.0	49.73	2.46	1.35	0.4	14.04	7.90	12000	15000	0.129	6205	•	•	•	•	•	•
	52	18	1.0					14.04	7.90	12000	15000	0.153	62205			•	•		
	62	17	1.1	59.61	3.28	1.90	0.6	22.41	11.78	11000	14000	0.232	6305	•	•	•	•	•	•
80	21	1.5	76.81	3.88	1.90	0.6	36.00	19.30	9000	11000	0.530	6405					•		
30	42	7	0.3					4.15	3.35	16000	19000	0.025	61806		•		•		
	47	9	0.3					7.28	4.55	16000	19000	0.051	61906				•		
	55	9	0.3					11.20	7.35	12000	15000	0.085	16006		•				
	55	13	1.0	52.60	2.06	1.35	0.4	13.24	8.22	12000	15000	0.116	6006	•	•	•	•	•	
	62	16	1.0	59.61	3.28	1.90	0.6	19.49	11.35	10000	13000	0.200	6206	•	•	•	•	•	•
	62	20	1.0					19.46	11.31	7500	9000	0.236	62206			•	•		
	72	19	1.0	68.81	3.28	1.90	0.6	28.70	15.80	9000	11000	0.346	6306	•	•	•	•	•	
90	23	1.5	86.79	3.88	2.70	0.6	43.30	24.00	8500	10000	0.375	6406						•	
35	47	7	0.3					4.45	3.20	13000	16000	0.030	61807				•		
	55	10	0.6					9.50	6.80	10000	13000	0.076	61907				•		
	62	9	0.3					12.20	8.80	10000	13000	0.110	16007	•	•				
	62	14	1.0	59.61	2.06	1.35	0.6	15.90	10.30	10000	13000	0.155	6007	•	•	•	•	•	•
	62	20	1.0					16.00	10.30	10000	13000	0.210	63007	•	•	•	•	•	•
	72	17	1.1	68.81	3.28	1.90	0.6	25.70	15.30	9000	11000	0.288	6207	•	•	•	•	•	•
	80	21	1.5	76.81	3.28	1.90	0.6	33.60	21.00	8500	10000	0.457	6307	•	•	•	•	•	•
100	25	1.5	96.80	3.88	2.70	0.6	54.60	30.60	7000	8500	0.952	6407		•			•		
40	52	7	0.3					5.10	4.40	12000	14000	0.033	61808				•		
	62	12	0.6					13.70	10.00	10500	12500	0.110	61908		•				
	68	9	0.3					13.20	10.20	9500	12000	0.125	16008	•					
	68	15	1.0	64.82	2.49	1.90	0.6	16.80	11.50	9500	12000	0.192	6008	•	•	•	•	•	•
	80	18	1.1	76.81	3.28	1.90	0.6	29.10	17.90	8500	10000	0.366	6208	•	•	•	•	•	•
	90	23	1.5	86.79	3.28	2.70	0.6	40.70	24.00	7500	9000	0.633	6308	•	•	•	•	•	•
	110	27	2.0	106.81	3.88	2.70	0.6	64.10	34.60	6700	8000	1.230	6408						
45	68	12	0.6					14.00	10.80	10000	12000	0.130	61909		•				
	75	10	0.6					15.60	12.20	9000	11000	0.170	16009						
	75	16	1.0	71.83	2.49	1.90	0.6	21.20	15.20	9000	11000	0.250	6009	•	•	•	•	•	•
	85	19	1.1	81.81	3.28	1.90	0.6	32.70	20.50	7500	9000	0.407	6209	•	•	•	•	•	•
	100	25	1.5	96.80	3.28	2.70	0.6	53.00	32.10	6700	8000	0.833	6309	•	•	•	•	•	•
	120	29	2.0	115.21	4.06	3.10	0.6	76.90	45.00	6000	7000	1.530	6409					•	

*Limiting speeds for bearings in RS and 2RS amount to only two-thirds of the values given in the Table

FŁT Deep groove ball bearings

łożyska kulkowe zwykłe

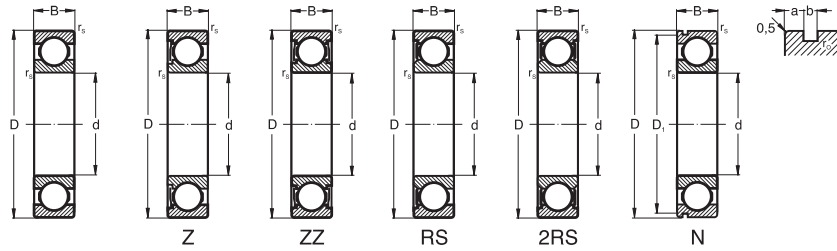


DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA ~ kg	BASIC DESIGNATION OZNACZENIE PODSTAWOWE	MODIFICATION ODMIANY					
d	D	B	r _s	D ₁	a	b	r _o	dynamic dynamiczna C	static statyczna C₀	grease* w smarze*	oil w oleju			Z	ZZ	RS	2RS	N	ZN
mm								kN		r/min									
			min	~				max											
50	72	12	0.6					14.60	11.80	9500	12000	0.140	61910	•					
	80	10	0.6					16.20	13.20	8500	10000	0.180	16010						
	80	16	1.0	76.81	2.49	1.90	0.6	21.80	16.60	8500	10000	0.261	6010	•	•	•	•	•	•
	90	20	1.1	86.79	3.28	1.90	0.6	35.10	23.20	7000	8500	0.463	6210	•	•	•	•	•	•
	110	27	2.0	106.81	3.28	2.70	0.6	61.80	37.90	6300	7500	1.070	6310	•	•	•	•	•	•
	130	31	2.1	125.22	4.06	3.10	0.6	91.60	54.30	5300	6300	1.880	6410						•
55	72	9	1.0					16.00	13.30	8200	9600	0.181	61911						
	90	11	0.6					16.40	14.20	7500	9000	0.260	16011						
	90	18	1.1	86.79	2.87	2.70	0.6	28.30	21.30	7500	9000	0.385	6011	•	•	•	•	•	•
	100	21	1.5	96.80	3.28	2.70	0.6	43.40	29.20	6300	7500	0.607	6211	•	•	•	•	•	•
	120	29	2.0	115.21	4.06	3.10	0.6	71.50	44.60	5600	6700	1.370	6311	•	•	•	•	•	•
	140	33	2.1	135.23	4.90	3.10	0.6	100.00	62.00	5000	6000	2.300	6411						•
60	78	10	0.6					11.50	10.60	8000	9400	0.106	61812						
	85	13	1.0					16.30	14.30	7500	9000	0.210	61912				•		
	95	11	0.6					20.00	17.60	6700	8000	0.280	16012						
	95	18	1.1	91.82	2.87	2.70	0.6	29.40	23.20	6700	8000	0.415	6012	•	•	•	•	•	•
	110	22	1.5	106.81	3.28	2.70	0.6	46.10	33.10	6000	7000	0.783	6212	•	•	•	•	•	•
	130	31	2.1	125.22	4.06	3.10	0.6	81.80	51.80	5000	6000	1.790	6312	•	•	•	•	•	•
65	150	35	2.1	145.25	4.90	3.10	0.6	109.00	70.00	4800	5600	2.770	6412						•
	85	10	0.6					11.60	11.00	7400	8700	0.128	6813		•				
	100	11	0.6					21.20	19.60	6700	8000	0.300	16013						
	100	18	1.1	96.80	2.87	2.70	0.6	30.50	25.20	6300	7500	0.435	6013	•	•	•	•	•	•
	120	23	1.5	115.21	4.06	2.70	0.6	57.20	40.00	5300	6300	0.990	6213	•	•	•	•	•	•
	140	33	2.1	135.23	4.90	3.10	0.6	93.00	56.00	4800	5600	2.080	6313	•	•	•	•	•	•
70	160	37	2.1	155.22	4.90	3.10	0.6	118.00	78.60	4500	5300	3.300	6413						•
	90	10	0.6					12.50	12.50	6700	8000	0.140	61814		•				
	110	20	1.1	106.81	2.87	3.10	0.6	38.00	30.90	6000	7000	0.600	6014	•	•	•	•	•	•
	125	24	1.5	120.22	4.06	3.10	0.6	62.20	44.00	5000	6000	1.070	6214	•	•	•	•	•	•
	150	35	2.1	145.24	4.90	3.10	0.6	104.00	63.00	4500	5300	2.520	6314	•	•	•	•	•	•
	180	42	3.0	173.66	5.69	3.50	0.6	143.00	104.00	3800	4500	4.830	6414						•
75	115	13	0.6					28.50	27.00	5600	6700	0.460	16015						
	115	20	1.1	111.81	2.87	3.10	0.6	39.50	33.60	5600	6700	0.630	6015	•	•		•	•	
	130	25	1.5	125.22	4.06	3.10	0.6	66.20	49.30	4800	5600	1.180	6215	•	•	•	•	•	•
	160	37	2.1	155.22	4.90	3.10	0.6	113.40	77.00	4300	5000	3.000	6315	•	•	•	•	•	•
	190	45	3.0	183.64	5.69	3.50	0.6	153.00	114.00	3600	4300	6.800	6415			•			•
	80	100	10	0.6					12.70	13.30	6000	7100	0.154	61816				•	
125		14	0.6					32.00	31.00	5300	6300	0.609	16016						
125		22	1.1	120.22	2.87	3.10	0.6	47.60	39.70	5300	6300	0.850	6016	•		•	•	•	
140		26	2.0	135.23	4.90	3.10	0.6	72.70	53.00	4500	5300	1.400	6216	•	•	•	•	•	
170		39	2.1	163.65	5.69	3.50	0.6	124.00	80.00	3800	4500	3.600	6316		•	•	•	•	
200		48	3.0	193.65	5.69	3.50	0.6	163.00	125.00	2500	3200	8.000	6416						•
85	110	13	1.0					19.30	20.00	5300	6300	0.270	61817						
	120	18	1.1					32.00	29.00	5300	6300	0.550	61917						
	130	22	1.1	125.22	2.87	3.10	0.6	49.50	43.00	5000	6000	0.890	6017					•	•
	150	28	2.0	145.24	4.90	3.10	0.6	77.00	59.00	4300	5000	1.790	6217	•	•		•	•	
	180	41	3.0	173.66	5.69	3.50	0.6	133.00	90.00	3600	4300	4.230	6317	•	•		•	•	

*Limiting speeds for bearings in RS and 2RS amount to only two-thirds of the values given in the Table

FŁT Deep groove ball bearings

łożyska kulkowe zwykłe

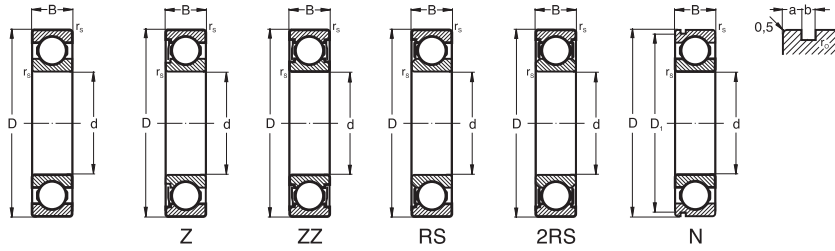


DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	BASIC DESIGNATION OZNACZENIE PODSTAWOWE	MODIFICATION ODMIANY					
d	D	B	r _s	D _i	a	b	r _e	dynamic dynamiczna C	static statyczna C ₀	grease* w smarze*	oil w oleju	~		Z	ZZ	RS	2RS	N	ZN
mm								kN		r/min		kg							
min								max											
90	140	16	1.0					41.50	39.00	4500	5300	0.860							
	140	24	1.5	135.23	3.71	3.10	0.6	58.20	46.60	4800	5600	1.160		•				•	
	160	30	2.0	155.22	4.90	3.10	0.6	102.40	75.90	3800	4500	2.150						•	
	190	43	3.0	183.64	5.69	3.50	0.6	143.00	98.00	3400	4000	4.900						•	
95	130	18	1.0					33.80	33.50	5300	6300	0.610							
	145	24	1.5	140.23	3.71	3.10	0.6	60.50	53.70	4500	5300	1.210		•				•	
	170	32	2.1	163.65	5.69	3.50	0.6	108.70	81.70	3600	4300	2.620		•		•		•	
	200	45	3.0	193.65	5.69	3.50	0.6	153.00	110.00	3200	3800	5.620						•	
100	150	16	1.0					35.00	36.50	4200	5000	0.910							
	150	24	1.5	145.24	3.71	3.10	0.6	60.10	54.20	4300	5000	1.250		•		•		•	
	180	34	2.1	173.66	5.69	3.50	0.6	122.10	92.70	3400	4000	3.140						•	
	215	47	3.0					175.00	131.00	3000	3600	7.000							
105	130	13	1.1					16.30	19.00	5300	6300	0.320							
	160	26	2.0	155.22	3.71	3.10	0.6	72.50	65.50	4000	4800	1.540						•	
	190	36	2.1	183.64	5.69	3.50	0.6	133.00	104.50	3200	3800	3.700						•	
	225	49	3.0					173.00	146.00	2800	3400	8.050						•	
110	140	16	1.0					28.10	26.00	4800	5600	0.500				•	•		
	170	19	1.0					57.00	57.00	3800	4500	1.520							
	170	28	2.0	163.65	3.71	3.50	0.6	82.00	72.80	3800	4500	1.960			•			•	
	200	38	2.1	193.65	5.69	3.50	0.6	144.10	117.00	3000	3600	4.360						•	
120	240	50	3.0					207.00	167.00	2600	3200	9.540							
	165	22	1.1					55.30	57.00	4300	5000	1.200							
	180	19	1.0					63.70	64.00	4000	4800	1.600							
	180	28	2.0	173.66	3.71	3.50	0.6	84.00	61.00	3400	4000	2.070						•	
130	215	40	2.1					153.00	112.00	2800	3400	5.150							
	260	55	3.0					217.00	180.00	2400	3000	14.600							
	165	18	1.1					39.00	46.50	3350	4000	0.860							
	200	22	1.1					78.00	81.50	3200	3800	2.420						•	
140	200	33	2.0	193.65	5.69	3.50	0.6	106.00	78.00	3200	3800	3.700			•			•	
	230	40	3.0					168.00	125.00	2600	3200	5.820							
	280	58	4.0					230.00	193.00	2200	2800	18.200							
	175	18	1.0					39.00	46.50	3400	4000	0.860							
150	210	22	1.1					63.00	69.00	3000	3600	2.550							
	210	33	2.0					110.00	83.00	3000	3600	3.900							
	250	42	3.0					177.00	137.00	2400	3000	7.470							
	300	62	4.0					255.00	224.00	2000	2600	21.800							
160	190	20	1.1					48.00	61.00	3200	3800	1.140							
	225	24	1.1					84.00	91.00	2600	3200	3.620							
	225	35	2.1					124.00	98.00	2600	3200	4.800							
	270	45	3.0					190.00	149.00	2000	2600	10.100							
160	320	65	4.0					291.00	255.00	1900	2400	26.200							
	200	20	1.1					52.00	62.00	3000	3600	1.190							
	240	25	1.5					99.50	108.00	2400	3000	3.800							
	240	38	2.1					138.00	105.00	2400	3000	5.890							
290	48	3.0					203.00	164.00	1900	2400	14.300								

*Limiting speeds for bearings in RS and 2RS amount to only two-thirds of the values given in the Table

FŁT Deep groove ball bearings

łożyska kulkowe zwykłe



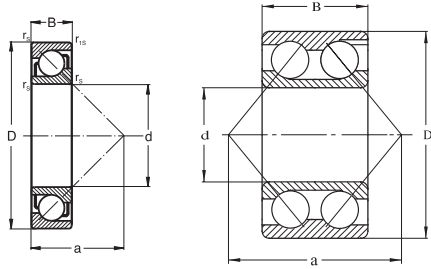
DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	BASIC DESIGNATION OZNACZENIE PODSTAWOWE	MODIFICATION ODMIANY					
d	D	B	r _s	D ₁	a	b	r _o	dynamic dynamiczna C	static statyczna C ₀	grease* w smarze*	oil w oleju	~		Z	ZZ	RS	2RS	N	ZN
min																			
max																			
mm								kN		r/min		kg							
170	215	22	1.1					62.00	73.50	2200	3400	1.560	61834						
	260	28	1.5					119.00	129.00	2200	2800	5.000	16034						
	260	42	2.1					168.00	133.00	1900	2800	7.920	6034						
	310	52	4.0					228.00	196.00	1800	2400	17.500	6234						
180	225	22	1.1					62.40	81.50	2400	3000	2.000	61836						
	280	31	2.0					138.00	146.00	2000	2600	6.500	16036						
	280	46	2.1					189.00	156.00	2000	2600	10.300	6036						
	320	52	4.0					256.00	230.00	1800	2200	18.300	6236						
190	240	24	1.5					76.10	98.00	2200	2800	2.600	61838						
	290	31	2.0					150.00	166.00	2000	2600	7.100	16038						
	290	46	2.1					196.00	167.00	2000	2600	10.800	6038						
	340	55	4.0					269.00	248.00	1800	2000	23.000	6238						
200	250	24	1.5					68.00	85.00	2400	3000	2.800	61840						
	310	34	2.0					168.00	190.00	1900	2400	8.850	16040						
	310	51	2.1					219.00	190.00	1900	2400	13.900	6040						
	360	58	4.0					280.00	267.00	1700	2000	28.200	6240						
220	270	24	1.5					73.50	96.50	2200	2800	2.880	61844						
	340	56	3.0					245.00	293.00	1 800	2 200	6.000	6044M						
240	300	28	2.0					96.40	126.10	1900	2400	4.800	61848						
	360	37	2.1					178.00	220.00	1700	2000	12.700	16048						
260	320	28	2.0					111.00	163.00	1700	2000	4.800	61852						
260	400	65	4.0					294.00	375.00	1 500	1 800	28.800	6052M						
280	350	33	2.0					142.70	182.90	1600	1900	7.630	61856						
300	380	38	2.1					150.00	196.00	1500	1800	10.700	61860						
300	420	56	4.0					267.00	370.00	1400	1700	20.600	61960						
320	400	38	2.1					153.00	212.00	1400	1700	11.300	61864						
	480	74	4.0					355.00	510.00	1100	1400	50.300	6064						
340	420	38	2.1					156.00	220.00	1300	1600	11.900	61868						
360	440	38	2.1					156.00	233.00	1300	1600	12.600	61872						
	540	82	5.0					439.00	699.00	2400	1900	64.500	6072						
380	480	46	2.0					237.50	351.50	1200	1500	20.700	61876						
460	580	56	3.0					290.00	480.00	950	1200	35.800	61892						
480	600	56	3.0					300.00	500.00	900	1100	38.000	61896						
560	680	56	3.0					310.00	570.00	800	950	43.500	618/560						
600	730	60	3.0					355.00	670.00	700	900	50.500	618/600						

*Limiting speeds for bearings in RS and 2RS amount to only two-thirds of the values given in the Table

ANGULAR CONTACT BALL BEARINGS



Single and double row | Jedno i dwurzędowe

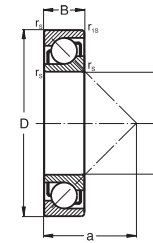


SUFFIX Characters placed after basic designation

Znaki umieszczone za oznaczeniem podstawowym

A	modified internal desing – contact angle 30° ● kąt działania łożyska $\alpha = 30^\circ$
B	modified internal desing – contact angle 40° ● kąt działania łożyska $\alpha = 40^\circ$
2RS	rubber seals at both sides of the bearing ● uszczelki gumowe po obu stronach łożyska
P6	accuracy to ISO tolerance class 6 ● klasa dokładności P6 wg tolerancji ISO (wyższa niż normalna P0)
P5	accuracy to ISO tolerance class 5 ● klasa dokładności P5 wg tolerancji ISO (wyższa niż P6)
X1	dimensions non conformity with the international standard ● wymiary zewnętrzne łożyska niezgodne z normami międzynarodowymi
MA	solid brass cage centred in the outer ring ● koszyk masywny mosiężny prowadzony na pierścieniu zewnętrznym
FA	solid steel cage centred in the outer ring ● koszyk masywny stalowy prowadzony na pierścieniu zewnętrznym
V	bearing without cage with full quantity of rolling elements ● łożysko bez kosza z pełną ilością kulek
N2M	bearing with two retaining slots and brass cage ● łożysko z dwoma rowkami ustalającymi (co 180°) i z koszykiem masywnym mosiężnym
TNG	polyamid cage ● kosz poliamidowy

Single row | Jednorzędowe

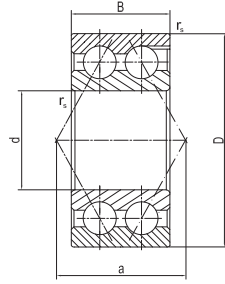


DIMENSIONS WYMIARY GŁÓWNE						BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTOWY GRANICZNE		MASS MASA	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE
d	D	B	r _s	r _{rs}	a	dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju	~	
mm						kN		r/min		kg	
17	40	12	0.6	0.3	16.0	10.8	5.30	14 000	19 000	0.070	7203B
	47	14	1.0	0.6	20.5	14.8	7.15	12 000	17 000	0.120	7303B
20	47	14	1.0	0.6	21.0	13.3	6.55	11 000	16 000	0.112	7204B
	52	15	1.1	0.6	17.0	18.0	9.30	10 000	15 000	0.150	7304B
25	52	15	1.0	0.6	23.5	14.7	7.65	9 500	14 000	0.135	7205B
	62	17	1.1	0.6	26.5	24.6	12.80	8 500	12 000	0.234	7305B
30	62	17	1.0	0.6	27.0	20.4	13.50	8 500	12 000	0.208	7206X1B
	72	19	1.1	0.6	31.0	34.4	21.20	7 500	10 000	0.362	7306B
35	72	17	1.1	0.6	31.0	27.0	18.30	7 500	10 000	0.295	7207B
	80	21	1.5	1.0	34.5	36.3	24.10	7 000	9 500	0.475	7307B
40	80	18	1.1	0.6	34.0	35.7	25.70	6 700	9 000	0.382	7208B
	90	23	1.5	1.0	39.0	49.7	30.20	6 300	8 500	0.657	7308B
45	85	19	1.1	0.6	37.0	35.7	27.00	6 300	8 500	0.430	7209B
	100	25	1.5	1.0	43.0	58.0	40.10	5 600	7 500	0.875	7309B
50	90	20	1.1	0.6	39.0	37.0	24.80	5 600	7 500	0.485	7210B
	110	27	2.0	1.0	47.0	67.5	47.80	5 000	6 700	1.140	7310B
55	100	21	1.5	1.0	43.0	46.5	29.40	5 300	7 000	0.635	7211B
	120	29	2.0	1.0	52.0	79.0	47.50	4 500	6 000	1.450	7311B
60	110	22	1.5	1.0	47.0	56.0	35.80	4 800	6 300	0.820	7212B
	130	31	2.1	1.1	55.0	90.5	54.00	4 300	5 600	1.810	7312B
65	120	23	1.5	1.0	50.0	64.0	42.20	4 300	5 600	1.020	7213B
	140	33	2.1	1.1	60.0	106.0	75.40	4 000	5 300	2.220	7313B
70	125	24	1.5	1.0	53.0	69.0	46.60	4 300	5 600	1.120	7214B
	150	35	2.1	1.1	64.0	120.0	86.00	3 600	4 800	2.700	7314B
75	130	25	1.5	1.0	56.0	71.0	49.00	4 000	5 300	1.230	7215B
	160	37	2.1	1.1	68.0	125.0	80.00	3 400	4 500	3.150	7315B
80	140	26	2.0	1.0	59.0	80.0	56.00	3 600	4 800	1.500	7216B
	170	39	2.1	1.1	72.0	135.0	90.00	3 200	4 300	4.180	7316B
85	150	28	2.0	1.0	64.0	90.5	64.00	3 400	4 500	1.800	7217B
	180	41	3.0	1.1	76.0	145.0	100.00	3 000	4 000	4.900	7317B
90	160	30	2.0	1.0	67.0	106.0	75.00	3 200	4 300	2.300	7218B
	190	43	3.0	1.1	80.0	155.0	112.00	2 900	3 800	5.760	7318B
95	170	32	2.1	1.1	71.0	121.0	86.50	3 000	4 000	3.000	7219B
	200	45	3.0	1.1	84.0	171.0	129.00	2 500	3 400	6.680	7319B
100	180	34	2.1	1.1	76.0	130.0	91.00	2 800	3 800	3.320	7220B
	215	47	3.0	1.1	90.0	191.0	150.00	2 400	3 200	7.180	7320B
110	240	50	3.0	1.1	99	213.0	208.00	3 200	3 200	10.700	7322B
	120	215	40	2.1	1.1	90	139.2	132.8	2600	3400	5.49
260	480	80	5.0	2.0	195	456.0	702.0	900	1300	66.0	7252B

FŁT Angular Contact Ball Bearings

łożyska kulkowe skośne

Double row with filling slots | Dwurzędowe z rowkiem do wkładania kulek



Four-point contact | Jednorzędowe dwukierunkowe - czteropunktowe

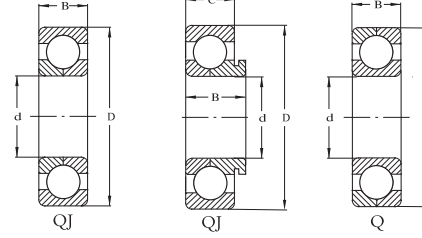


Fig. 1 Fig. 2 Fig. 3

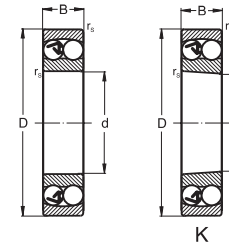
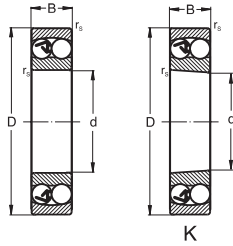


DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS	MODIFICATION	DIMENSIONS			BASIC LOAD RATING		MODIFICATION	BASIC DESIGNATIONS	MASS	FIG No					
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTOWY GRANICZNE					MASA	OZNACZENIE PODSTAWOWE	ODMIANY	WYMIARY GŁÓWNE						NOŚNOŚĆ		ODMIANY	OZNACZENIE PODSTAWOWE	MASA
d	D	B	r _s	a	dynamic	static	grease*	oil	~	ZZ	2RS				d	D	B/C	dynamic	static	V	MA	FA			
min					C	C ₀	w smarze	w oleju							mm	mm		C	C ₀						kg
mm					kN		r/min		kg			mm	mm		kN						kg				
10	30	14	1.0	19	7.92	5.20	16 000	22 000	0.050	•	•	25	62	17	38.90	27.80				•	•	0.25	1		
12	32	15.9	1.0	22	9.68	6.40	15 000	20 000	0.060	•	•	40	80	22/18	59.0	50.0		•			•	•	0.45	2	
15	35	15.9	1.0	23	9.13	6.20	13 000	18 000	0.070	•	•	45	85	19	61.5	55.0							0.52	1	
	42	19.0	1.0	27	15.10	10.60	10 000	15 000	0.130	•	•		100	25	93.5	77.0							1.04	1	
17	40	17.5	1.0	27	12.50	9.00	10 000	15 000	0.100	•	•	55	120	29	139.0	119.0		•			•	•	0.74	1	
	47	22.2	1.0	31	20.90	15.00	9 500	14 000	0.190	•	•		120	29	139.0	119.0							1.58	1	
20	47	20.6	1.0	31	17.20	12.70	9 000	13 000	0.170	•	•	60	130	31	146.0	127.0		•			•	•	2.20	1	
	52	22.2	1.1	34	20.90	15.60	8 500	12 000	0.230	•	•	65	100	18	55.0	61.5							0.51	1	
25	52	20.6	1.0	35	22.00	13.40	8 000	11 000	0.190	•	•	90	160	30	176.0	186.0		•			•	•	2.80	1	
	62	25.4	1.1	41	28.90	26.40	7 500	10 000	0.370	•	•	130	280	58	444.0	580.0							19.50	1	
30	62	23.8	1.0	41	27.20	27.00	7 000	9 500	0.320	•	•	140	300	62	486.0	655.0							24.00	1	
	72	30.2	1.1	47	44.50	27.00	6 300	8 500	0.590	•	•	150	320	65	400.0	700.0							27.80	3	
35	72	27.0	1.1	47	34.50	35.30	6 000	8 000	0.480	•	•	170	260	42	315.0	453.0							9.50	1	
	80	34.9	1.5	54	57.00	35.50	5 600	7 500	0.820	•	•	180	380	75	638.0	1030.0							47.50	1	
40	80	30.2	1.1	52	49.00	32.00	5 600	7 500	0.650	•	•	220	340	56	431.0	724.0							22.80	1	
	90	36.5	1.5	58	53.60	56.60	5 000	6 700	0.950	•	•		460	88	845.0	1530.0							73.00	1	
45	85	30.2	1.1	56	52.50	36.50	5 000	6 700	0.710	•	•	260	480	90	493.0	762.0							28.50	1	
	100	39.7	1.5	65	73.10	79.40	4 500	6 000	1.400	•	•	320	580	92	984.0	2139.0							121.00	1	
50	90	30.2	1.1	59	60.00	42.50	4 800	6 300	0.760	•	•	360	540	82	680.0	1490.0		•					70.00	1	
	110	44.4	2.0	73	104.00	72.00	4 000	5 300	1.950	•	•	530	710	82	903.0	2390.0							105.48	1	
55	100	33.3	1.5	64	57.20	54.00	4 300	5 600	1.050	•	•	630	850	100	1150.0	3400.0							162.00	1	
	120	49.2	2.0	80	95.20	88.00	3 600	4 800	2.550	•	•	670	820	69	821.0	2460.0		•					82.40	3	
60	110	36.5	1.5	71	72.10	68.00	3 800	5 000	1.400	•	•	900	1180	122	1610.0	5690.0							379.40	1	
	130	54.0	2.5	85	112.00	106.00	3 400	4 500	3.250	•	•														
65	120	38.1	1.5	76	78.10	75.00	3 600	4 800	1.750	•	•														
70	125	39.7	2.1	81	78.10	76.50	3 200	4 300	1.900	•	•														
	150	63.5	2.1	109	143.00	166.00	3 000	4 000	4.870	•	•														
75	130	41.3	2.1	84	84.20	85.20	3 200	4 300	2.100	•	•														
80	140	44.4	2.1	91	101.00	104.00	2 800	3 800	2.650	•	•														
	170	68.3	2.1	113	176.00	212.00	3 600	4 000	6.950	•	•														

* Limiting speeds for bearing in 2RS amount to only two-thirds of the values given in the Table

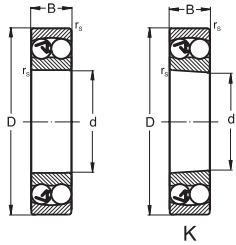
SELF-ALIGNING BALL BEARINGS





SUFFIX	Characters placed after basic designation
	Znaki umieszczone za oznaczeniem podstawowym
K	tapered bored (1:12 on diameter) ● otwór stożkowy (zbieżność 1:12)
P6	accuracy to ISO tolerance class 6 ● klasa dokładności P6 wg tolerancji ISO (wyższa niż normalna P0)
C3	radial clearance greater than normal ● luz promieniowy większy od luzu normalnego - C0
C4	radial clearance greater than C3 ● luz promieniowy większy od luzu C3
2RS	rubber seals at both sides of the bearing ● dwie uszczelki gumowe z obu stron łożyska

DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS	MODIFICATION
WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTY GRANICZNE		MASA	OZNACZENIE	ODMIANY
d	D	B	r _s	dynamic	static	grease	oil	~	PODSTAWOWE	K 2RS
mm				kN		r/min		kg		
10	30	9	1.0	4.25	1.40	24 000	30 000	0.03	1200	
12	32	10	1.0	4.80	1.53	22 000	28 000	0.04	1201	
15	35	11	1.0	5.85	2.08	19 000	24 000	0.05	1202	
17	40	12	1.0	6.10	2.45	18 000	22 000	0.07	1203	
20	47	14	1.0	10.10	2.60	15 000	18 000	0.12	1204	
	47	18	1.0	9.80	3.90	10 000	-	0.14	2204	●
25	52	15	1.0	12.00	3.30	13 000	16 000	0.14	1205	●
	52	18	1.0	12.50	3.45	13 000	16 000	0.18	2205	● ●
	62	17	1.0	17.80	5.05	9 500	12 000	0.26	1305	●
30	62	16	1.0	15.67	4.70	10 000	13 000	0.22	1206	●
	62	20	1.0	15.30	4.55	9 500	12 000	0.26	2206	● ●
	72	19	1.1	21.35	6.34	9 000	11 000	0.39	1306	●
	72	27	1.1	31.40	8.67	8 500	10 000	0.50	2306	●
35	72	17	1.1	15.80	5.15	9 000	11 000	0.32	1207	●
	72	23	1.1	21.65	6.68	8 500	10 000	0.40	2207	● ●
	80	21	1.5	25.10	7.94	7 500	9 000	0.51	1307	●
	80	31	1.5	39.40	11.10	7 000	8 500	0.68	2307	●
40	80	18	1.1	19.22	6.50	8 500	10 000	0.42	1208	●
	80	23	1.1	22.26	7.37	7 500	9 000	0.51	2208	● ●
	90	23	1.5	29.51	9.76	6 700	8 000	0.72	1308	●
	90	33	1.5	44.85	13.38	6 300	7 500	0.93	2308	●
45	85	19	1.1	21.82	7.37	7 500	9 000	0.47	1209	●
	85	23	1.1	23.29	8.15	7 000	8 500	0.55	2209	● ●
	100	25	1.5	38.10	12.90	6 300	7 500	0.96	1309	●
	100	36	1.5	54.11	16.47	5 600	6 700	1.25	2309	●
50	90	20	1.1	22.72	8.09	7 000	8 500	0.53	1210	●
	90	23	1.1	23.26	8.47	6 300	7 500	0.59	2210	● ●
	110	27	2.0	43.34	14.16	5 600	6 700	1.20	1310	●
	110	40	2.0	64.38	20.00	5 300	6 300	1.65	2310	●
55	100	21	1.5	26.75	10.03	6 300	7 500	0.71	1211	●
	100	25	1.5	26.35	9.93	6 000	7 000	0.81	2211	●
	120	29	2.0	51.32	18.05	5 000	6 000	1.60	1311	●
	120	43	2.0	75.27	23.78	4 800	5 600	2.10	2311	●
60	110	22	1.5	30.16	11.56	5 600	6 700	0.90	1212	●
	110	28	1.5	33.94	12.55	5 300	6 300	1.10	2212	●
	130	31	2.1	57.12	20.74	4 500	5 300	1.95	1312	●
	130	46	2.1	86.80	27.84	4 500	5 300	2.60	2312	●
65	120	23	1.5	31.00	12.37	5 300	6 300	1.15	1213	●
	130	31	1.5	43.53	16.35	5 000	6 000	1.45	2213	●
	140	33	2.1	61.97	22.86	4 300	5 000	2.45	1313	●
	140	48	2.1	96.23	32.38	4 000	4 900	3.25	2313	●



DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS	MODIFICATION
WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTY GRANICZNE				
d	D	B	r _s	dynamic	static	grease	oil	~	K	2RS
mm				kN		r/min		kg		
70	125	24	1.5	34.64	13.68	5 000	6 000	1.25	1214	●
	125	31	1.5	40.00	17.00	4 800	5 600	1.50	2214	●
	150	35	2.1	74.29	27.68	4 000	4 800	3.00	1314	●
	150	51	2.1	110.00	37.50	3 800	4 500	3.90	2314	●
75	130	25	1.5	38.85	15.55	4 800	5 600	1.35	1215	●
	130	31	1.5	44.00	18.00	4 500	5 300	1.60	2215	●
	160	37	2.1	79.16	29.87	3 900	4 500	3.55	1315	●
	160	55	2.1	122.00	42.50	3 400	4 000	4.70	2315	●
80	140	26	2.0	39.82	16.94	4 500	5 300	1.65	1216	●
	140	33	2.0	71.00	28.50	4 000	4 800	2.00	2216	●
	170	39	2.1	88.35	33.01	3 600	4 300	4.20	1316	●
	170	58	2.1	145.00	51.67	3 200	3 800	6.10	2316	●
85	150	28	2.0	49.22	20.48	4 200	4 800	2.10	1217	●
	150	36	2.0	57.94	23.61	3 800	4 500	2.50	2217	●
	180	41	3.0	97.59	37.82	3 400	4 000	5.00	1317	●
	180	60	3.0	140.00	51.00	3 000	3 600	7.10	2317	●
90	160	30	2.0	54.94	22.22	3 800	4 500	2.50	1218	●
	160	40	2.0	71.00	28.50	3 600	4 300	3.40	2218	●
	190	43	3.0	116.27	44.80	2 800	3 400	8.45	1318	●
95	170	32	2.1	64.00	27.00	3 600	4 300	3.10	1219	●
	170	43	2.1	83.00	34.00	3 200	3 800	4.10	2219	●
	200	67	3.0	163.00	64.00	2 600	3 200	8.80	2319	●
100	180	34	2.1	69.12	29.48	3 400	4 000	3.70	1220	●
	180	46	2.1	76.50	51.00	3 200	3 800	5.00	2220	●

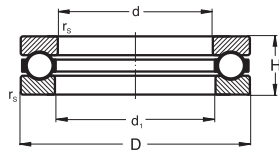


F&T Thrust Ball Bearings

łożyska kulkowe wzdłużne

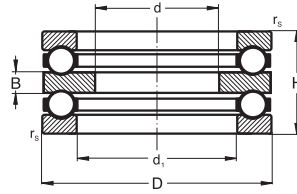
Single direction

Jednokierunkowe



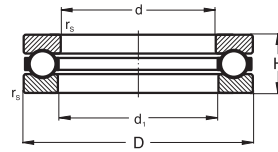
double direction

Dwukierunkowe



Single direction

Jednokierunkowe



SUFFIX Characters placed after basic designation

Znaki umieszczone za oznaczeniem podstawowym

M machined brass cage
● koszyk masywny mosiężny

U bearing with sphered housing washer and aligning seating washer
● łożysko z pierścieniem kulistym i podkładką kulistą

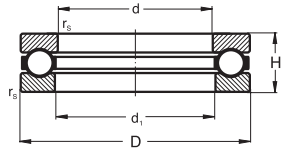
DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE			
d	d ₁	D	H	r _s	dynamic	static	grease	oil	MASA	OZNACZENIE
mm					dynamiczna	statyczna	w smarze	w oleju	~	PODSTAWOWE
					C	C ₀				
					kN		r/min		kg	
70	72.00	95	18	1.0	40.20	117.0	2 400	3 200	0.360	51114
	72.00	105	27	1.0	65.60	159.0	1 800	2 620	0.810	51214
	72.00	125	40	1.1	153.00	275.0	1 200	1 700	2.060	51314
75	77.00	100	19	1.0	44.30	122.9	2 200	3 200	0.420	51115
	77.00	110	27	1.0	67.20	169.0	1 800	2 600	0.860	51215
	77.00	135	44	1.5	171.00	319.0	1 100	1 600	2.680	51315
80	82.00	105	19	1.0	44.90	128.5	2 000	3 000	0.430	51116
	82.00	115	28	1.0	68.70	179.0	1 700	2 400	0.950	51216
	82.00	140	44	1.5	178.00	348.0	1 000	1 500	2.820	51316
85	87.00	110	19	1.0	45.50	134.1	2 000	3 000	0.460	51117
	87.00	125	31	1.0	97.50	250.0	1 600	2 200	1.200	51217
	88.00	150	49	1.5	190.00	397.0	950	1 400	3.060	51317
90	92.00	120	22	1.0	58.00	167.3	1 800	2 600	0.680	51118
	93.00	135	35	1.1	119.00	300.0	1 500	2 000	1.700	51218
	93.00	155	50	1.5	190.00	400.0	850	1 200	3.980	51318
100	102.00	135	25	1.0	74.30	218.6	1 700	2 400	0.990	51120M
	103.00	150	38	1.1	138.00	358.0	1 300	1 800	2.360	51220
	103.00	170	55	1.5	215.00	517.0	850	1 200	5.110	51320
110	112.00	145	25	1.0	76.80	238.4	1 600	2 200	1.080	51122
	113.00	160	38	1.1	141.00	380.0	1 200	1 700	2.570	51222
	113.00	190	63	1.5	267.00	704.0	800	1 100	7.870	51322M
120	122.00	155	25	1.0	79.20	258.3	1 600	2 200	1.160	51124
	123.00	170	39	1.1	153.00	383.0	1 200	1 700	2.860	51224
	123.00	210	70	2.0	311.00	869.0	750	1 000	10.900	51324M
130	132.00	170	30	1.0	105.00	336.2	1 400	1 900	1.870	51126M
	133.00	190	45	1.5	192.00	548.0	950	1 400	4.190	51226M
	134.00	225	75	2.1	332.00	705.0	700	950	13.300	51326
140	142.00	180	31	1.0	105.70	350.2	1 300	1 800	2.070	51128M
	143.00	200	46	1.5	195.00	578.0	950	1 400	4.880	51228M
	144.00	240	80	2.1	370.00	912.0	630	900	15.900	51328
150	152.00	190	31	1.0	108.00	328.0	1 200	1 700	2.180	51130
	153.00	215	50	1.5	224.00	589.0	900	1 300	6.190	51230
	154.00	250	80	2.1	382.00	981.0	500	800	16.700	51330
160	162.00	200	31	1.0	120.30	448.3	1 200	1 700	2.330	51132M
	163.00	225	51	1.5	230.00	608.0	850	1 200	6.670	51232
	164.00	270	87	3.0	470.00	1 570.0	630	850	18.600	51332
170	172.00	215	34	1.1	135.00	417.0	1 100	1 600	3.310	51134
	173.00	240	55	1.5	270.00	721.0	800	1 100	8.290	51234
180	183.00	225	34	1.1	135.00	431.0	1 000	1 500	3.480	51136
	183.00	250	56	1.5	275.00	750.0	800	1 100	8.850	51236
	193.00	240	37	1.1	171.00	529.0	950	1 400	4.060	51138
190	194.00	270	62	2.0	319.00	898.0	750	1 000	11.900	51238
200	203.00	250	37	1.1	183.70	715.0	950	1 400	4.240	51140M
	204.00	280	62	2.0	334.00	1 175.0	750	1 000	12.400	51240M
	205.00	340	110	4.0	679.00	2 610.0	480	630	43.000	51340

DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE			
d	d ₁	D	H	r _s	dynamic	static	grease	oil	~	OZNACZENIE
mm					dynamiczna	statyczna	w smarze	w oleju		PODSTAWOWE
					C	C ₀			kg	
					kN		r/min			
10	11.00	24	9	0.3	10.00	14.0	7 000	9 500	0.020	51100
	11.00	26	11	1.0	10.00	14.0	6 000	8 000	0.030	51200
12	13.00	26	9	0.3	10.40	15.3	6 700	9 000	0.022	51101
15	16.00	28	9	0.3	9.36	14.0	6 300	8 500	0.230	51102
17	17.00	23	12	0.6	16.50	25.0	5 300	7 000	0.043	51202
	18.00	30	9	0.3	9.65	15.3	6 300	8 500	0.025	51103
	18.00	35	12	1.0	12.70	22.0	5 300	7 000	0.053	51203
20	21.00	35	10	0.3	12.70	20.8	5 600	7 500	0.038	51104
	22.00	40	14	0.6	22.40	37.5	4 500	6 000	0.083	51204
25	26.00	42	11	0.6	15.60	29.0	4 800	6 300	0.061	51105
	27.00	47	15	0.6	28.00	50.0	4 000	5 300	0.110	51205
	27.00	52	18	1.0	33.50	55.9	3 900	5 000	0.180	51305
30	32.00	47	11	0.6	14.93	30.4	4 500	6 000	0.068	51106
	32.00	52	16	0.6	25.50	46.6	4 500	6 000	0.144	51206
	32.00	60	21	1.0	37.80	67.8	3 000	4 000	0.270	51306
35	37.00	52	12	0.6	17.40	37.5	4 300	5 600	0.085	51107
	37.00	62	18	1.0	35.30	67.1	3 800	5 000	0.220	51207
	37.00	68	24	1.0	56.00	85.0	3 000	4 000	0.390	51307
	38.35	66	16		33.30	77.5	3 500		0.216	CBK-287A
40	42.00	60	13	0.6	25.10	56.5	3 800	5 000	0.120	51108
	42.00	68	19	1.0	40.00	80.1	3 800	5 000	0.270	51208
	42.00	78	26	1.0	57.50	109.3	2 000	3 000	0.550	51308
45	47.00	65	14	0.6	25.30	59.5	3 800	5 000	0.150	51109
	47.00	73	26	1.0	28.90	80.1	3 000	4 000	0.320	51209
	47.00	85	28	1.0	71.50	138.3	1 800	2 600	0.690	51309
50	52.00	70	14	0.6	27.10	69.0	3 400	4 500	0.160	51110
	52.00	78	22	1.0	41.80	92.4	3 000	4 000	0.390	51210
	52.00	95	31	1.1	86.40	170.8	1 800	2 600	1.000	51310
55	57.00	78	16	0.6	32.80	85.8	3 000	4 000	0.240	51111
	57.00	90	25	1.0	63.50	139.1	2 000	3 000	0.610	51211
	57.00	105	35	1.1	113.00	225.8	1 600	2 200	1.340	51311
60	62.00	85	17	1.0	39.10	103.0	2 600	3 600	0.290	51112
	62.00	95	26	1.0	62.20	139.1	2 000	3 000	0.690	51212
	62.00	110	35	1.1	117.00	246.4	1 600	2 200	1.430	51312
65	67.00	90	18	1.0	40.60	113.0	2 400	3 200	0.340	51113
	67.00	100	27	1.0	63.90	149.0	1 800	2 600	0.770	51213
	67.00	115	36	1.1	127.00	231.0	1 200	1 700	1.570	51313

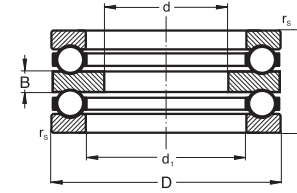
FŁT Thrust Ball Bearings

łożyska kulkowe wzdłużne

Single direction | Jednokierunkowe



Double direction | Dwukierunkowe



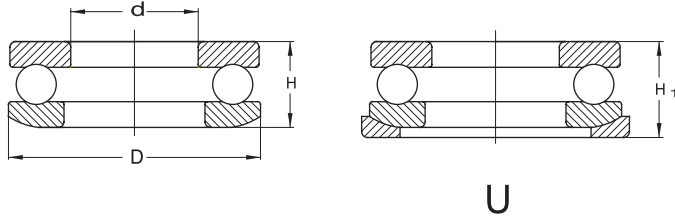
DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS	DIMENSIONS						BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS	
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTOWY GRANICZNE				MASA	OZNACZENIE PODSTAWOWE	WYMIARY GŁÓWNE						NOŚNOŚĆ				OBROTOWY GRANICZNE
d	d ₁	D	H	r _s	dynamic	static	grease	oil	~		d	d ₁	D	H	B	r _s	r _{1s}	dynamic	static	grease	oil	~	
mm					kN		r/min		kg		mm						kN		r/min		kg		
					C		C ₀										C		C ₀				
220	223.00	270	37	1.1	176.00	735.0	900	1 300	4.620	51144M	40	52	78	39	9	1.0	0.6	41.8	92.4	3 000	4 000	0.71	52210
	224.00	300	63	2.0	336.00	1 233.0	700	950	13.700	51244M		52	95	58	14	1.1	0.6	86.4	170.8	1 800	2 600	1.86	52310
240	243.00	300	45	1.5	240.00	973.7	800	1 100	7.550	51148M	45	57	90	45	10	1.0	0.6	63.5	139.1	3 000	4 000	1.12	52211
	244.00	340	78	2.1	436.00	1 724.0	600	800	23.600	51248M		57	105	64	15	1.1	0.6	112.5	225.8	1 600	2 200	2.51	52311
260	263.00	320	45	1.5	245.00	1 034.0	800	1 100	8.110	51152M	50	62	95	46	10	1.0	0.6	62.2	139.1	2 000	3 000	1.25	52212
	264.00	360	79	2.1	460.00	1 878.0	450	630	25.600	51252M		62	110	64	15	1.1	0.6	117.0	246.4	1 600	2 200	2.86	52312
280	283.00	350	53	1.5	329.90	1 391.0	700	950	12.200	51156M	55	67	100	47	10	1.0	0.6	63.9	149.0	1 800	2 600	1.36	52213
	284.00	380	80	2.1	465.00	1 967.0	400	560	27.600	51256M		67	115	65	15	1.1	0.6	127.0	231.0	1 200	1 700	2.90	52313
300	304.00	380	62	2.0	406.70	1 801.0	630	850	17.500	51160M	60	72	105	47	10	1.0	0.6	65.6	159.0	1 800	2 600	1.48	52214
	304.00	420	95	2.1	580.00	2 320.0	360	500	43.100	51260M		72	125	72	16	1.1	1.0	153.0	275.0	1 200	1 700	3.90	52314
320	304.00	420	95	3.0	580.00	2 680.0	480	630	42.100	51260	65	77	110	47	10	1.0	1.0	67.2	169.0	1 800	2 600	1.57	52215
	324.00	400	63	2.0	408.80	1 863.0	600	800	18.900	51164M		77	135	79	18	1.5	1.0	171.0	319.0	1 100	1 600	4.83	52315
340	325.00	440	95	3.0	632.00	2 460.0	450	600	44.500	51264M	70	82	115	48	10	1.0	1.0	68.7	179.0	1 700	2 400	1.69	52216
	344.00	420	64	2.0	622.00	2 934.0	600	800	20.300	51168M		82	140	79	18	1.5	1.0	178.0	348.0	1 000	1 500	5.06	52316
360	364.00	440	65	2.0	430.40	2 111.0	560	750	21.800	51172M	75	88	124	55	12	1.0	1.0	92.8	238.0	1 600	2 200	2.34	52217
	505.00	600	80	2.1	550.00	3350.0	430	560	47.000	511/500		88	160	87	19	1.5	1.0	190.0	397.0	950	1 400	6.43	52317
500	505.00	670	135	1.2	1010.00	6800.0	250	350	135.000	512/500	85	93	135	62	14	1.1	1.0	101.3	263.9	1 500	2 000	3.22	52218
												93	155	88	19	1.5	1.0	190.0	400.0	850	1 200	6.60	52318
											85	103	150	67	15	1.1	1.0	138.0	358.0	1 300	1 800	4.29	52220
												103	170	97	21	1.5	1.0	215.0	517.0	850	1 200	8.90	52320

FŁT Thrust Ball Bearings

łożyska kulkowe wzdłużne

Single-direction with sphered housing washer and aligning seating

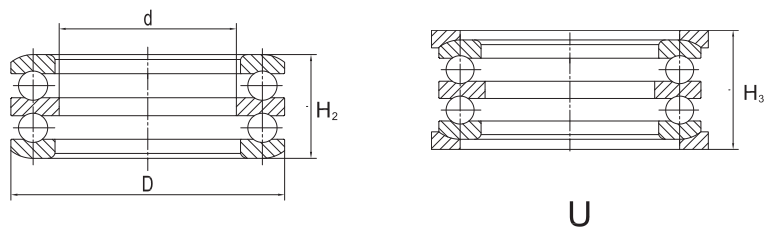
Jednokierunkowe z pierścieniem zewnętrznym kulistym i podkładką kulistą



DIMENSIONS			BASIC LOAD RATING		MODIFICATION		BASIC DESIGNATIONS	MASS
WYMIARY GŁÓWNE			NOŚNOŚĆ		ODMIANA			
d	D	H / H ₁	dynamic dynamiczna C	static statyczna C ₀	M	MU	OZNACZENIE PODSTAWOWE	MASA
mm			kN					~
								kg
110	190	/ 67.2	265.00	560.0	•	•	53322	2.050
200	280	65.3	334.0	1180.0	•		53240	11.40
220	300	65.6 / 75	336.0	1230.0	•	•	53244	16.80

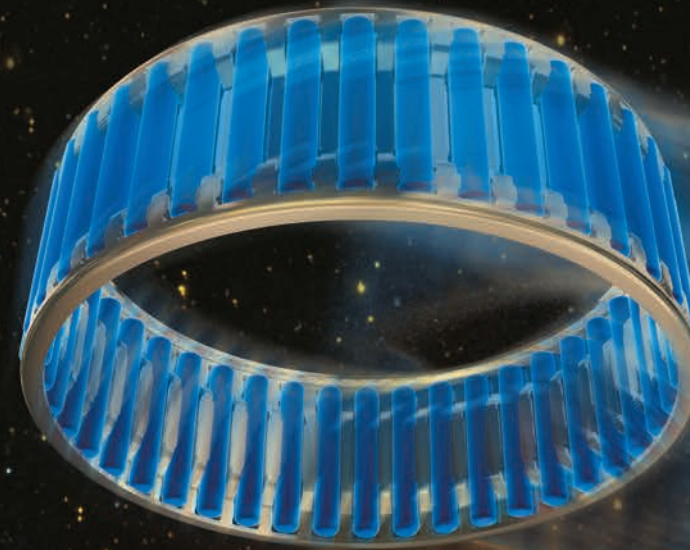
Double-direction with aligning seat washers

Dwukierunkowe z kulistymi pierścieniami zewnętrznymi

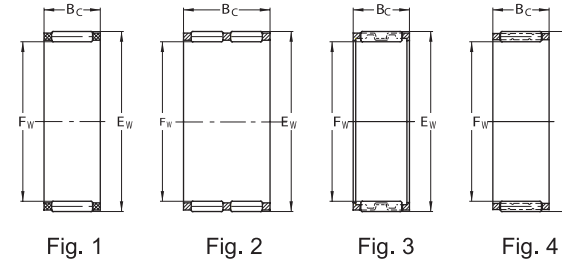
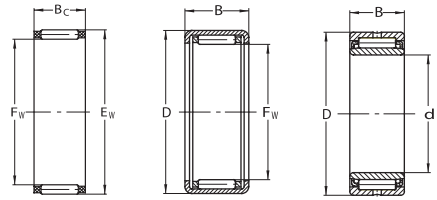


DIMENSIONS			BASIC LOAD RATING		MODIFICATION			BASIC DESIGNATIONS	MASS
WYMIARY GŁÓWNE			NOŚNOŚĆ		ODMIANA				
d	D	H ₂ / H ₃	dynamic dynamiczna C	static statyczna C ₀	M	U	MU	OZNACZENIE PODSTAWOWE	MASA
mm			kN						~
									kg
45	95	49.6 / 55	63.5	139.0	•	•		54211	1.40
100	220	131.2 / 143	311.0	869.0	•	•	•	T-54324	23.30

NEEDLE ROLLER BEARINGS



Needle roller and cage assemblies | Złożenia igielkowe



PREFIX		Characters placed before basic designation
		Znaki umieszczone przed oznaczeniem podstawowym
KBK		special cage for gudgeon pin bearing ● koszyk specjalny do sworznia tłokowego
KZK		special cage for crank pin bearing ● koszyk specjalny do łożyska czopu korbowego
SUFFIX		Characters placed after basic designation
		Znaki umieszczone za oznaczeniem podstawowym
	TNG	polyamid cage ● kosz poliamidowy
	V	bearing without cage with full quantity of rolling elements łożysko bez koszyka z pełną ilością wałków
	2RS	rubber seals at both sides of bearing ● dwie uszczelki gumowe z obu stron łożyska

DIMENSIONS			BASIC LOAD RATING		BEARING DESIGNATIONS	MASS	FIG No
WYMIARY GŁÓWNE			NOŚNOŚĆ				
Fw	Ew	Bc	dynamic dynamiczna C	static statyczna C ₀	OZNACZENIE ŁOŻYSKA	MASA ~	NR RYS.
mm			kN			kg	
12	17.000	14.2	8.00	9.50	KBK 12x17x14.2	0.008	4
	18.000	12.0	9.25	8.75	K 12x18x12 TNG	0.0060	1
14	18.000	10.0	6.80	8.30	K14x18x10	0.0048	1
	20.000	13.0	9.70	11.00	K15x20x13	0.0089	1
15	25.000	37.0	34.60	37.50	612-735 TN	0.0420	1
	16	20.000	10.0	7.60	9.70	K16x20x10	0.0057
20.000		23.0	13.40	19.50	KK 16x20x23 TNG	0.0080	2
17	22.000	12.0	10.60	11.10	KZK 16x22x12	0.0095	3
	21.000	13.0	10.46	14.60	K 17x21x 13	0.0065	1
18	22.000	17.0	9.60	13.10	KBK 18x22x17	0.0108	4
	19	28.575	36.5	40.40	48.80	612-695 TNG	0.0460
28.575		43.0	46.00	57.50	612-696 TNG	0.0560	1
20	25.300	19.8	18.40	23.70	F-52590	0.0172	1
	26.000	17.0	19.90	24.80	K 20x26x17	0.0182	
22	26.000	20.0	13.70	24.00	HK2020	0.0241	1
	28.000	17.0	19.40	27.00	K 22x28x17	0.0180	1
25	29.000	16.0	17.80	21.20	KZK 22x29x16	0.0156	3
	33.336	25.4	36.20	51.00	C 162116	0.0726	1
28	33.000	13.0	14.90	22.80	K 28x33x13	0.0152	1
	35.000	16.0	21.50	29.50	K 28x35x16	0.0240	1
30	34.000	32.5	24.20	51.00	KK 30x34x32.5 TNG	0.0194	2
	32	38.000	20.0	26.50	45.00	K 32x38x20	0.0300
40.000		25.0	37.50	58.00	K 32x40x25	0.0500	1
35	40.000	30.0	24.70	47.00	KK 35x40x30	0.0430	2
	42.000	16.0	24.40	37.50	K 35x42x16	0.0340	1
35	42.000	30.0	39.00	68.00	K 35x42x30	0.0670	1
	45.000	20.0	37.00	50.00	K 35x45x20	0.0560	1
40	45.000	17.0	23.50	46.00	K 40x45x17	0.0254	1
	45.000	21.0	22.50	44.00	K 40x45x21	0.0365	1
45	50.000	20.0	23.70	48.40	K 45x50x20	0.0310	1
	53.000	21.0	38.90	66.00	K 45x53x21	0.0580	1
60	65.000	20.0	29.50	72.00	K 60x65x20	0.0520	1
	115	123.000	27.0	63.00	170.00	K 115x123x27	0.2000

Drawn cup needle roller bearings | Łożyska cienkościenne

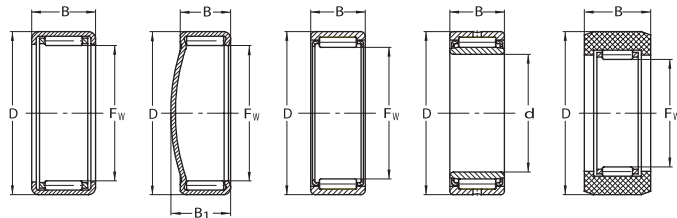


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

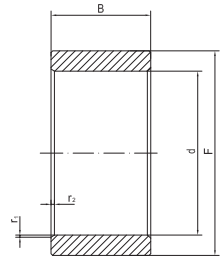


DIMENSIONS				BASIC LOAD RATING		BEARING DESIGNATIONS	MASS	FIG No
WYMIARY GŁÓWNE				NOŚNOŚĆ				
Fw	D	B	B ₁	dynamic dynamiczna C	static statyczna C ₀	~		
mm				kN			kg	
5.000	9.000	9.00		2.01	1.75	HK 0509	0.0020	1
6.000	10.000	8.00		2.03	1.65	HK 0608	0.0021	1
	10.000	9.00		2.22	2.04	RHNA 061009	0.0026	1
8.000	12.000	10.00		0.08	3.95	HK 0810	0.0030	1
10.000	14.000	10.00		4.55	5.70	HK1010	0.0040	1
	14.000	12.00		5.50	6.80	HK1012	0.0048	1
	15.000	9.60		5.90	8.30	311-687V	0.0066	2
	16.000	8.95	10.15	6.50	7.30	F-43088	0.0070	2
	16.000	12.00		5.30	5.55	RHNA 101612	0.0080	1
12.000	16.000	10.00		4.15	5.80	HK1210	0.0052	1
	16.000	12.00		3.80	5.10	HK1212	0.0056	1
	18.000	9.95	10.70	8.25	10.40	F-82868	0.0090	2
	18.000	9.95		8.25	10.40	311-748 V	0.0090	2
14.000	20.000	12.00		6.10	7.75	HK 1412	0.0105	1
	22.000	13.00		8.06	9.00	RNA4900	0.0244	3
15.000	21.000	12.00		7.00	8.40	HK1512	0.0111	1
15.875	20.638	12.70		7.00	10.90	SCE 108	0.0109	1
16.000	22.000	16.00		10.90	15.30	HK 1616	0.0160	1
17.000	23.000	12.00		7.90	10.30	HK 1712	0.0120	1
	23.000	22.00		12.50	20.60	RHNA 172322 A	0.0217	1
18.000	24.000	12.00		7.10	9.90	HK1812	0.0131	1
	24.000	16.00		10.30	16.30	HK 1816	0.0175	1
19.000	36.100	19.00		10.60	13.20	373-692 X1	0.0280	5*
	37.700	19.00		10.60	13.20	373-692	0.0280	5*
	38.000	19.00		10.60	13.20	373-692 X2	0.0280	5*
19.050	25.400	19.05		13.70	21.20	SCE 1212	0.0226	1
20.000	26.000	20.00		15.70	26.00	HK2020	0.0240	1
22.248	34.925	25.40		29.40	37.40	313-641	0.0870	3
25.000	32.000	16.00		15.60	24.00	HK 2516	0.0270	1
	32.000	20.00		17.80	31.50	HK 2520	0.0341	1
	42.000	17.00		23.50	30.50	NA 4905	0.0913	4
25.400	38.100	25.40		31.90	43.10	F-92090	0.0900	3
30.000	37.000	16.00		17.20	29.00	HK 3016	0.0310	1
	37.000	26.00		25.80	53.50	HK 3026	0.0594	1
	38.000	20.00		21.50	37.30	RHNA 303820 X1	0.0460	1
	42.000	17.00		23.50	30.50	RNA 4905	0.0610	3
	47.000	17.00		25.50	39.00	NA4906	0.0810	4
31.750	44.450	25.40		35.80	53.00	F-92091	0.1088	3
	47.625	31.75		56.00	77.00	313-644	0.1850	3
34.925	14.275	12.70		11.80	21.90	SCE 228	0.0280	1
35.000	41.000	12.00		11.30	19.40	HK 3512	0.0277	1
40.000	47.000	20.00		25.50	52.00	HK 4020	0.0540	1
41.161	49.327	16.10		21.10	39.00	F-47905	0.0516	1
50.800	60.325	25.40		37.70	78.00	SCE 3216	0.1080	1
60.000	68.000	20.00		30.50	72.00	HK6020	0.0860	1

*Fig. no. 5 – Needle roller bearing with rubber sleeve. / Łożysko igielkowe w tuleji gumowej



IR - rings | Pierścienie serii IR



SUFFIX Characters placed after basic designation

Znaki umieszczone za oznaczeniem podstawowym

EGS

Surface ground free from spiral marks for rotary shaft seals.

● Wolna od rys szlifierskich powierzchnia stykowa dla poprzecznych pierścieni uszczelniających wał.

DIMENSIONS				BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA
WYMIARY GŁÓWNE					
d	F	B	r _{1,2} min		
mm				r/min	kg
9	12	12	0.2	IR 9x12x12	0.004
10	13	12.5	0.3	IR 10x13x12.5	0.005
	14	12.0	0.3	IR 10x14x12	0.007
	14	13.0	3.0	IR 10x14x13	0.007
12	14	16.0	0.3	IR 10x14x16	0.009
	14	20.0	0.3	IR 10x14x20	0.012
	15	12.0	0.3	IR 12x15x12	0.006
	15	12.5	0.3	IR 12x15x12.5	0.006
	15	16.0	0.3	IR 12x15x16	0.008
14	15	16.5	0.3	IR 12x15x16.5	0.008
	15	22.5	0.3	IR 12x15x22.5	0.011
	16	13.0	0.3	IR 12x16x13	0.008
	16	16.0	0.3	IR 12x16x16	0.011
	16	20.0	0.3	IR 12x16x20	0.014
	16	22.0	0.3	IR 12x16x22	0.015
	17	17.0	0.3	IR 14x17x17	0.009
	18	16.0	0.3	IR 15x18x16	0.010
15	18	16.5	0.3	IR 15x18x16.5	0.010
	19	16.0	0.3	IR 15x19x16	0.013
	19	20.0	0.3	IR 15x19x20	0.017
	20	12.0	0.3	IR 15x20x12	0.012
	20	13.0	0.3	IR 15x20x13	0.014
	20	16.0	0.3	IR 15x20x16	0.017
	20	23.0	0.3	IR 15x20x23	0.025
	20	16.5	0.3	IR 17x20x16.5	0.011
17	20	20.0	0.3	IR 17x20x20	0.014
	20	20.5	0.3	IR 17x20x20.5	0.014
	20	30.5	0.3	IR 17x20x30.5	0.021
	21	16.0	0.3	IR 17x21x16	0.015
	21	20.0	0.3	IR 17x21x20	0.019
	22	13.0	0.3	IR 17x22x13	0.015
	22	16.0	0.3	IR 17x22x16	0.019
	22	23.0	0.3	IR 17x22x23	0.028
	22	26.0	0.3	IR 17x22x26	0.031
	22	32.0	0.3	IR 17x22x32	0.038
24	20.0	0.3	IR 17x24x20	0.034	

DIMENSIONS				BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA
WYMIARY GŁÓWNE					
d	F	B	r _{1,2} min		
mm				r/min	kg
20	24	16.0	0.3	IR 20x24x16	0.018
	24	20.0	0.3	IR 20x24x20	0.020
	25	16.0	0.3	IR 20x25x16	0.022
22	25	17.0	0.3	IR 20x25x17	0.023
	25	20.0	0.3	IR 20x25x20	0.028
	25	20.5	0.3	IR 20x25x20.5	0.029
	25	26.0	0.3	IR 20x25x26	0.036
	25	26.5	0.3	IR 20x25x26.5	0.037
	25	30.0	0.3	IR 20x25x30	0.042
	25	38.5	0.3	IR 20x25x38.5	0.054
	28	20.0	0.3	IR 20x28x20	0.045
25	26	16.0	0.3	IR 22x26x16	0.019
	26	20.0	0.3	IR 22x26x20	0.023
	28	17.0	0.3	IR 22x28x17	0.030
	28	20.0	0.3	IR 22x28x20	0.035
	28	20.5	0.3	IR 22x28x20.5	0.038
	28	30.0	0.3	IR 22x28x30	0.056
	29	20.0	0.3	IR 25x29x20	0.027
	29	30.0	0.3	IR 25x29x30	0.040
28	30	12.5	0.3	IR 25X30X12.5	0.020
	30	17.0	0.3	IR 25x30x17	0.028
	30	20.0	0.3	IR 25x30x20	0.030
	30	20.5	0.3	IR 25x30x20.5	0.035
	30	26.0	0.3	IR 25x30x26	0.044
	30	26.5	0.3	IR 25x30x26.5	0.045
	30	30.0	0.3	IR 25x30x30	0.051
	30	32.0	0.3	IR 25x30x32	0.054
	30	38.5	0.3	IR 25x30x38.5	0.066
	32	22.0	0.6	IR 25x32x22	0.052
29	32	17.0	0.3	IR 28x32x17	0.028
	32	20.0	0.3	IR 28x32x20	0.030
	32	30.0	0.3	IR 28x32x30	0.044
	32	13.0	0.3	IR 29x32x13	0.015

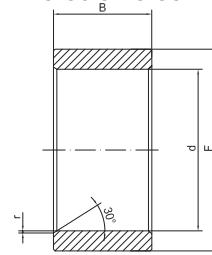
IR - rings | Pierścienie serii IR

DIMENSIONS				BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA
WYMIARY GŁÓWNE					
d	F	B	r _{1,2} min		
mm				r/min	kg
30	35	13.0	0.3	IR 30x35x13	0.025
	35	17.0	0.3	IR 30x35x17	0.033
	35	18.0	0.3	IR 30x35x18	0.036
	35	20.0	0.3	IR 30x35x20	0.039
	35	20.5	0.3	IR 30x35x20.5	0.040
	35	26.0	0.3	IR 30x35x26	0.054
	35	30.0	0.3	IR 30x35x30	0.057
	35	32.0	0.3	IR 30x35x32	0.062
	37	18.0	0.3	IR 30x37x18	0.050
	37	20.0	0.3	IR 32x37x20	0.043
32	37	30.0	0.3	IR 32x37x30	0.064
	40	20.0	0.6	IR 32x40x20	0.069
	40	36.0	0.6	IR 32x40x36	0.130
	37	13.0	0.3	IR 33x37x13	0.022
33	40	17.0	0.3	IR 35x40x17	0.040
	40	20.0	0.3	IR 35x40x20	0.046
35	40	20.5	0.3	IR 35x40x20.5	0.049
	40	30.0	0.3	IR 35x40x30	0.071
	40	40.0	0.3	IR 35x40x40	0.094
	42	36.0	0.6	IR 35x42x36	0.120
	43	22.0	0.6	IR 35x43x22	0.082
	44	22.0	0.6	IR 35x44x22	0.097
	43	20.0	0.3	IR 38x43x20	0.050
	43	30.0	0.3	IR 38x43x30	0.075
38	45	17.0	0.3	IR 40x45x17	0.044
	45	20.0	0.3	IR 40x45x20	0.052
40	45	20.5	0.3	IR 40x45x20.5	0.054
	45	30.0	0.3	IR 40x45x30	0.078
	45	40.0	0.3	IR 40x45x40	0.120
	48	22.0	0.6	IR 40x48x22	0.094
	48	40.0	0.6	IR 40x48x40	0.180
	50	12	0.6	IR 40x50x12	0.065
	50	20.0	1.0	IR 40x50x20	0.110
	50	22.0	1.0	IR 40x50x22	0.120
42	47	20.0	0.3	IR 42x47x20	0.055
	47	30.0	0.3	IR 42x47x30	0.083
45	50	20.0	0.3	IR 45x50x20	0.058
	50	25.0	0.3	IR 45x50x25	0.073
	50	35.0	0.3	IR 45x50x35	0.110
	50	40.0	0.3	IR 45x50x40	0.120
	52	22.0	0.6	IR 45x52x22	0.090
	52	40.0	0.6	IR 45x52x40	0.170
	55	22.0	1.0	IR 45x55x22	0.150
	55	40.0	1.0	IR 45x55x40	0.250

DIMENSIONS				BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA	
WYMIARY GŁÓWNE						
d	F	B	r _{1,2} min			
mm				r/min	kg	
50	55	20.0	0.3	IR 50x55x20	0.065	
	55	25.0	0.3	IR 50x55x25	0.081	
	55	35.0	0.3	IR 50x55x35	0.120	
	55	40.0	0.3	IR 50x55x40	0.130	
	55	45.0	0.3	IR 50x55x45	0.140	
	58	22.0	0.6	IR 50x58x22	0.120	
	58	40.0	0.6	IR 50x58x40	0.220	
	60	25.0	1.0	IR 50x60x25	0.170	
	60	28.0	1.0	IR 50x60x28	0.180	
	60	40.0	1.0	IR 50x60x40	0.031	
55	60	25.0	0.3	IR 55x60x25	0.088	
	60	35.0	0.3	IR 55x60x35	0.130	
	63	25.0	1.0	IR 55x63x25	0.140	
	63	45.0	1.0	IR 55x63x45	0.290	
	65	28.0	1.0	IR 55x65x28	0.200	
60	65	30.0	1.0	IR 55x65x30	0.220	
	68	25.0	1.0	IR 60x68x25	0.160	
	68	35.0	1.0	IR 60x68x35	0.220	
	68	45.0	1.0	IR 60x68x45	0.290	
	70	25.0	1.0	IR 60x70x25	0.200	
	70	28.0	1.0	IR 60x70x28	0.220	
	70	30.0	1.0	IR 60x70x30	0.240	
	70	60.0	1.0	IR 60x70x60	0.480	
	65	72	25.0	1.0	IR 65x72x25	0.150
		72	45.0	1.0	IR 65x72x45	0.270
73		25.0	1.0	IR 65x73x25	0.170	
73		35.0	1.0	IR 65x73x35	0.240	
75		28.0	1.0	IR 65x75x28	0.230	
70	75	30.0	1.0	IR 65x75x30	0.260	
	80	25.0	1.0	IR 70x80x25	0.230	
	80	30.0	1.0	IR 70x80x30	0.270	
	80	35.0	1.0	IR 70x80x35	0.320	
	80	54.0	1.0	IR 70x80x54	0.500	
	80	56.0	1.0	IR 70x80x56	0.510	
	75	85	25.0	1.0	IR 75x85x25	0.240
		85	30.0	1.0	IR 75x85x30	0.290
85		35.0	1.0	IR 75x85x35	0.340	
85		54.0	1.0	IR 75x85x54	0.530	
80		90	25.0	1.0	IR 80x90x25	0.260
	90	30.0	1.0	IR 80x90x30	0.310	
	90	35.0	1.0	IR 80x90x35	0.360	
	90	54.0	1.0	IR 80x90x54	0.570	
	85	95	26.0	1.0	IR 85x95x26	0.290
		95	30.0	1.0	IR 85x95x30	0.340
95		36.0	1.0	IR 85x95x36	0.400	
100		35.0	1.1	IR 85x100x35	0.600	
100		63.0	1.1	IR 85x100x63	1.100	

IR - rings | Pierścienie serii IR

LR - rings
Pierścienie serii LR



DIMENSIONS				BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA
WYMIARY GŁÓWNE					
d	F	B	r _{1,2} min		
mm				r/min	kg
90	100	26.0	1.0	IR 90x100x26	0.300
	100	30.0	1.0	IR 90x100x30	0.350
	100	36.0	1.0	IR 90x100x36	0.420
	105	35.0	1.1	IR 90x105x35	0.630
95	105	63.0	1.1	IR 90x105x63	1.150
	105	26.0	1.0	IR 95x105x26	0.310
	105	36.0	1.0	IR 95x105x36	0.430
100	110	35.0	1.1	IR 95x110x35	0.660
	110	63.0	1.1	IR 95x110x63	1.200
	110	30.0	1.1	IR 100x110x30	0.390
110	110	40.0	1.1	IR 100x110x40	0.510
	115	40.0	1.1	IR 100x115x40	0.790
	120	30.0	1.0	IR 110x120x30	0.430
120	125	40.0	1.1	IR 110x125x40	0.870
	130	30.0	1.0	IR 120x130x30	0.460
130	135	45.0	1.1	IR120x135x45	1.050
	145	35.0	1.1	IR 130x145x35	0.890
140	150	50.0	1.5	IR 130x150x50	1.750
	155	35.0	1.1	IR 140x155x35	0.960
150	160	50.0	1.5	IR 140x160x50	1.850
	165	40.0	1.1	IR 150x165x40	1.150
160	175	40.0	1.1	IR 160x175x40	1.200
170	185	45.0	1.1	IR 170x185x45	1.450
180	195	45.0	1.1	IR 180x195x45	1.500
190	210	50.0	1.5	IR 190x210x50	2.400
200	220	50.0	1.5	IR 200x220x50	2.500
220	240	50.0	1.5	IR 220x240x50	2.750
240	265	60.0	2.0	IR 240x265x60	4.600
260	285	60.0	2.0	IR 260x285x60	5.000
280	305	69.0	2.0	IR 280x305x69	6.100
300	330	80.0	2.1	IR 300x330x80	9.200
320	350	80.0	2.1	IR 320x350x80	9.800
340	370	80.0	2.1	IR 340x370x80	10.000
360	390	80.0	2.1	IR 360x390x80	11.000
380	415	100.0	2.1	IR 380x415x100	17.000

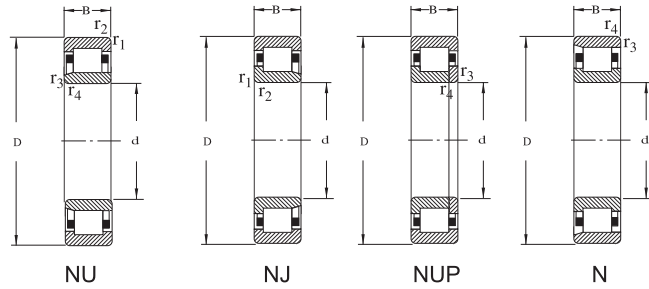
DIMENSIONS				BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA
WYMIARY GŁÓWNE					
d	F	B	r		
mm				r/min	kg
10	13	12.50	0.5	LR 10x13x12.5	0.005
12	15	12.50	0.3	LR 12x15x12.5	0.006
	15	16.50	0.5	LR 12x15x16.5	0.008
15	15	22.50	0.5	LR 12x15x22.5	0.011
	18	12.50	0.5	LR 15x18x12.5	0.007
17	18	16.50	0.5	LR 15x18x16.5	0.010
	20	16.50	0.5	LR 17x20x16.5	0.011
20	20	20.50	0.5	LR 17x20x20.5	0.014
	20	30.50	0.5	LR 17x20x30.5	0.021
	25	12.50	0.5	LR 20x25x12.5	0.016
	25	16.50	0.5	LR 20x25x16.5	0.022
22	25	20.50	0.5	LR 20x25x20.5	0.028
	25	26.50	0.5	LR 20x25x26.5	0.036
	25	38.50	0.5	LR 20x25x38.5	0.053
	28	20.50	0.5	LR 22x28x20.5	0.036
25	30	12.50	0.5	LR 25x30x12.5	0.020
	30	16.50	0.5	LR 25x30x16.5	0.027
	30	20.50	0.5	LR 25x30x20.5	0.034
	30	26.50	0.5	LR 25x30x26.5	0.043
30	30	38.50	0.5	LR 25x30x38.5	0.064
	35	12.50	0.5	LR 30x35x12.5	0.023
	35	16.50	0.5	LR 30x35x16.5	0.031
	35	20.50	0.5	LR 30x35x20.5	0.041
35	37	22.00	0.5	LR 30x37x22	0.061
	40	12.50	0.5	LR 35x40x12.5	0.027
40	40	16.50	0.5	LR 35x40x16.5	0.037
	40	20.50	0.5	LR 35x40x20.5	0.046
	45	16.50	0.5	LR 40x45x16.5	0.041
45	45	20.50	0.5	LR 40x45x20.5	0.053
	50	20.50	0.5	LR 45x50x20.5	0.059
50	50	25.00	0.5	LR 45x50x25.5	0.074
	55	20.50	0.8	LR 50x55x20.5	0.064

*Tolerance: - d - P0 (Normal according ISO 492)
*Tolerancja: - d - P0 (normalna wg ISO 492)

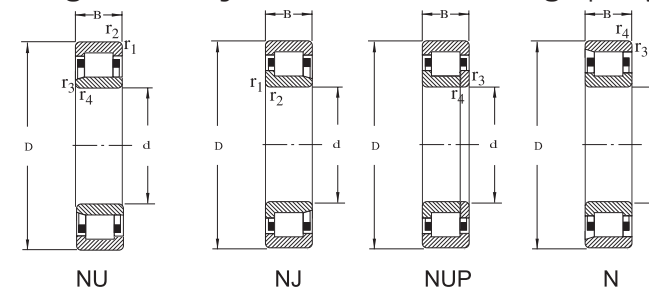
*Tolerance: d (K6); D (h6); B (h12)
*Tolerancja: d (K6); D (h6); B (h12)

CYLINDRICAL ROLLER BEARINGS





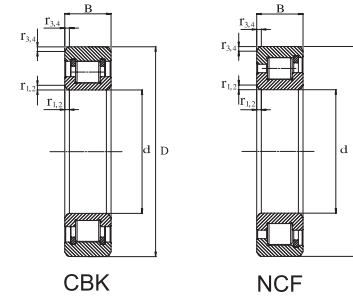
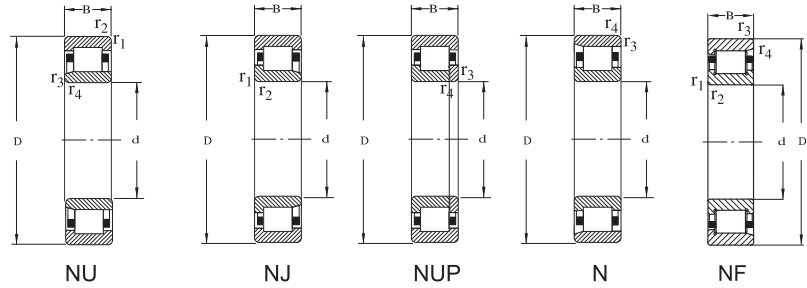
Single - row cylindrical roller bearings | Łożyska walcowe jednorzędowe



PREFIX		Characters placed before basic designation
R		separable bearing without removable inner (RNU) or outer ring (RN) ● łożyska rozłączne bez swobodnego pierścienia wewnętrznego lub zewnętrznego
SUFFIX		Characters placed after basic designation
E		modified internal design - increased capacity ● zmodyfikowana konstrukcja wewnętrzna - zwiększona nośność
M		machined brass cage centered on rolling elements ● koszki masywne mosiężne prowadzone na wałkach
MA		machined brass cage centred on the outer ring ● koszki masywne mosiężne prowadzone na pierścieniu zewnętrznym
MB		machined brass cage centred on the inner ring ● koszki masywne mosiężne prowadzone na pierścieniu wewnętrznym
TN		polyamid cage ● koszki poliamidowe
P6		accuracy to ISO tolerance class 6 ● klasa dokładności P6 wg tolerancji ISO (wyższa niż normalna P0)
C2		radial clearance less than normal ● luz promieniowy mniejszy od luzu normalnego - C0
C3		radial clearance greater than normal ● luz promieniowy większy od luzu normalnego - C0
C4		radial clearance greater than C3 ● luz promieniowy większy od luzu C3
P63		accuracy to ISO class 6 with radial clearance C3 ● łożysko w klasie dokładności P6 i z luzem promieniowym C3
P64		accuracy to ISO class 6 with radial clearance C4 ● łożysko w klasie dokładności P6 i z luzem promieniowym C4
V		bearing without cage with full quantity of rolling elements ● łożysko bez kosza z pełną ilością walczków

DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS	MASS	SKETCH
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE				
d	D	B	r _{1,2}	r _{3,4}	dynamic	static	grease	oil	~		
			min	min	C	C ₀	w smarze	w oleju			
mm					kN		r/min			kg	
15	35	11	0.6	0.3	12.50	10.2	18 000	22 000	N202E	0.048	N
	35	11	0.6	0.3	12.50	10.2	18 000	22 000	NU202E	0.048	NU
	35	11	0.6	0.3	12.50	10.2	18 000	22 000	NJ202E	0.048	NJ
	35	11	0.6	0.3	12.50	10.2	18 000	22 000	NUP202E	0.048	NUP
	35	11	0.6	0.3	12.50	10.2	18 000	22 000	NJ202ETNT	0.047	NJ
17	40	12	0.6	0.3	19.70	17.0	15 000	18 000	NJ203E	0.090	NJ
	40	12	0.6	0.3	19.80	17.1	15 000	18 000	NJ203E TNT	0.070	NJ
20	47	14	1.0	0.6	25.10	22.0	13 000	16 000	N204E	0.110	N
	47	14	1.0	0.6	25.10	22.0	13 000	16 000	NU204E	0.110	NU
	47	14	1.0	0.6	25.10	22.0	13 000	16 000	NJ204E	0.110	NJ
	47	14	1.0	0.6	25.10	22.0	13 000	16 000	NUP204E	0.110	NUP
	47	18	1.0	0.6	29.70	27.5	13 000	16 000	NJ2204	0.140	NJ
25	52	15	1.0	0.6	28.60	27.0	11 000	14 000	N205E	0.130	N
	52	15	1.0	0.6	28.60	27.0	11 000	14 000	NU205E	0.130	NU
	52	15	1.0	0.6	28.60	27.0	11 000	14 000	NJ205E	0.130	NJ
	52	15	1.0	0.6	28.60	27.0	11 000	14 000	NUP205E	0.130	NUP
	52	18	1.0	0.6	27.50	26.8	11 000	14 000	NJ2205M	0.160	NJ
	52	18	1.0	0.6	27.50	26.8	11 000	14 000	NUP2205	0.160	NUP
	62	17	1.1	1.1	40.20	36.5	9 500	12 000	N305E	0.240	N
	62	17	1.1	1.1	40.20	36.5	9 500	12 000	NU305E	0.240	NU
	62	17	1.1	1.1	40.20	36.5	9 500	12 000	NJ305E	0.240	NJ
	62	17	1.1	1.1	40.20	36.5	9 500	12 000	NUP305E	0.240	NUP
30	62	24	1.1	1.1	42.70	40.9	9 500	12 000	NU2305EM	0.400	NU
	62	24	1.1	1.1	42.70	40.9	9 500	12 000	NJ2305EM	0.400	NJ
	62	16	1.0	0.6	36.00	35.5	8 500	11 000	N206E	0.220	N
	62	16	1.0	0.6	36.00	35.5	8 500	11 000	NU206E	0.220	NU
	62	16	1.0	0.6	36.00	35.5	8 500	11 000	NJ206E	0.220	NJ
	62	16	1.0	0.6	36.00	35.5	8 500	11 000	NUP206E	0.220	NUP
	62	20	1.0	0.6	48.90	49.8	8 500	11 000	NUP2206EM	0.260	NUP
35	62	20	1.0	0.6	44.00	48.1	8 500	11 000	NJ2206E	0.310	NJ
	72	19	1.1	1.1	49.20	48.2	8 000	10 000	N306E	0.380	N
	72	19	1.1	1.1	49.20	48.2	8 000	10 000	NU306E	0.380	NU
	72	19	1.1	1.1	49.20	48.2	8 000	10 000	NJ306E	0.380	NJ
	72	19	1.1	1.1	49.20	48.2	8 000	10 000	NUP306E	0.380	NUP
	90	23	1.5	1.5	57.20	53.0	7 000	9 000	NJ406	0.730	NJ
	72	17	1.1	0.6	46.50	48.0	7 500	9 500	N207E	0.340	N
	72	17	1.1	0.6	46.50	48.0	7 500	9 500	NU207E	0.340	NU
	72	17	1.1	0.6	46.50	48.0	7 500	9 500	NJ207E	0.340	NJ
	72	17	1.1	0.6	46.50	48.0	7 500	9 500	NUP207E	0.340	NUP
80	72	23	1.1	1.1	49.00	51.2	7 500	9 500	NJ2207E	0.450	NJ
	80	21	1.5	1.1	62.00	63.2	7 000	9 000	N307E	0.500	N
	80	21	1.5	1.1	62.00	63.2	7 000	9 000	NU307E	0.500	NU
	80	21	1.5	1.1	62.00	63.2	7 000	9 000	NJ307E	0.500	NJ
	80	21	1.5	1.1	62.00	63.2	7 000	9 000	NUP307E	0.500	NUP
	80	21	1.5	1.1	62.00	63.2	7 000	9 000	NJ307E	0.500	NUP

Single - row cylindrical roller bearings | Łożyska walcowe jednorzędowe

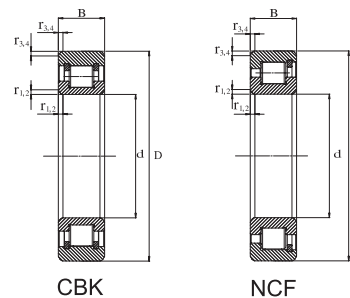
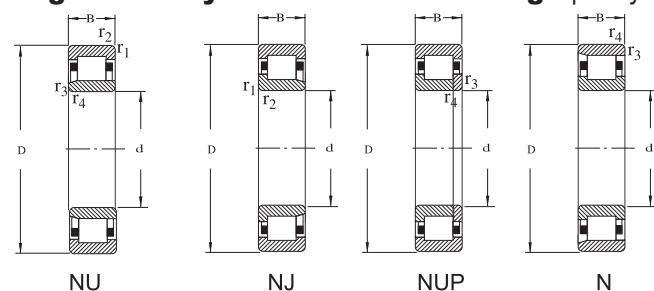


DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA	SKETCH SCHEMAT	DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA	SKETCH SCHEMAT		
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE					WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE						
d	D	B	r _{1,2}	r _{3,4}	dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju				d	D	B	r _{1,2}	r _{3,4}	dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju					
mm	mm	mm	min	min	kN	kN	r/min	r/min				mm	mm	mm	min	min	kN	kN	r/min	r/min					
40	80	18	1.5	1.1	51.50	53.0	7 000	9 000	N208E	0.390	N	60	110	22	1.5	1.5	89.80	102.0	5 000	6 300	N212E	0.840	N		
	80	18	1.5	1.1	51.50	53.0	7 000	8 000	NJ208E	0.390	NJ		110	22	1.5	1.5	89.80	102.0	5 000	6 300	NU212E	0.840	NU		
	80	18	1.5	1.1	51.50	53.0	7 000	8 000	NUP208E	0.390	NUP		110	22	1.5	1.5	89.80	102.0	5 000	6 300	NJ212E	0.840	NJ		
	80	23	1.1	1.1	64.30	67.6	7 000	8 000	NJ2208E	0.490	NJ		110	22	1.5	1.5	89.80	102.0	5 000	6 300	NUP212E	0.840	NUP		
	90	33	1.5	1.5	113.20	121.1	6 300	7 500	NJ2308E	0.950	NJ		110	22	1.5	1.5	89.80	102.0	5 000	6 300	NF212E	0.840	NF		
	90	23	1.5	1.5	76.80	77.8	6 300	8 000	N308E	0.670	N		110	28	1.5	1.5	101.00	123.0	5 000	6 300	NJ2212E	1.090	NJ		
	90	23	1.5	1.5	76.80	77.8	6 300	8 000	NU308E	0.670	NU		130	31	2.1	2.1	142.00	155.0	4 500	5 600	N312E	1.940	N		
	90	23	1.5	1.5	76.80	77.8	6 300	8 000	NJ308E	0.670	NJ		130	31	2.1	2.1	142.00	155.0	4 500	5 600	NU312E	1.940	NU		
	90	23	1.5	1.5	76.80	77.8	6 300	8 000	NUP308E	0.670	NUP		130	31	2.1	2.1	142.00	155.0	4 500	5 600	NJ312E	1.940	NJ		
	110	27	2.0	2.0	90.50	89.8	5 600	6 700	NUP408E	1.150	NUP		130	31	2.1	2.1	142.00	155.0	4 500	5 600	NUP312E	1.940	NUP		
	110	27	2.0	2.0	90.50	89.8	5 600	6 700	NJ408	1.150	NJ		65	120	23	1.5	1.5	102.00	118.0	4 500	5 600	N213E	1.050	N	
	45	75	16	1.1	1.1	31.00	34.0	9 900	12 000	NJ1009M	0.290			NJ	120	23	1.5	1.5	102.00	118.0	4 500	5 600	NU213E	1.050	NU
		85	19	1.1	1.1	58.50	63.8	6 300	8 000	N209E	0.450			N	120	23	1.5	1.5	102.00	118.0	4 500	5 600	NJ213E	1.050	NJ
85		19	1.1	1.1	58.50	63.8	6 300	8 000	NU209E	0.450	NU	120		23	1.5	1.5	102.00	118.0	4 500	5 600	NUP213E	1.050	NUP		
85		19	1.1	1.1	58.50	63.8	6 300	8 000	NJ209E	0.450	NJ	140		33	2.1	2.1	170.00	188.0	4 000	5 000	N313E	2.420	N		
85		19	1.1	1.1	58.50	63.8	6 300	8 000	NUP209E	0.450	NUP	140		33	2.1	2.1	170.00	188.0	4 000	5 000	NU313E	2.420	NU		
85		23	1.1	1.1	64.30	67.8	6 300	8 000	NJ2209E	0.540	NJ	140		33	2.1	2.1	170.00	188.0	4 000	5 000	NJ313E	2.420	NJ		
85		23	1.1	1.1	64.30	67.8	6 300	8 000	NUP2209E	0.590	NUP	140		33	2.1	2.1	170.00	188.0	4 000	5 000	NU313E	2.420	NU		
100		36	1.5	1.5	138.80	155.7	5 600	6 700	NJ2309E	1.290	NJ	70		125	24	1.5	1.5	112.00	135.0	4 300	5 300	N214E	1.290	N	
100		25	1.5	1.5	93.00	98.0	5 600	7 000	N309E	0.950	N			125	24	1.5	1.5	112.00	135.0	4 300	5 300	NU214E	1.290	NU	
100		25	1.5	1.5	93.00	98.0	5 600	7 000	NU309E	0.950	NU			125	24	1.5	1.5	112.00	135.0	4 300	5 300	NJ214E	1.290	NJ	
100		25	1.5	1.5	93.00	98.0	5 600	7 000	NJ309E	0.950	NJ			125	24	1.5	1.5	112.00	135.0	4 300	5 300	NUP214E	1.290	NUP	
100		25	1.5	1.5	93.00	98.0	5 600	7 000	NUP309E	0.950	NUP			125	31	1.5	1.5	119.00	151.0	4 300	5 300	NJ2214E	1.700	NJ	
100		25	1.5	1.5	93.00	98.0	5 600	7 000	NF309E	0.950	NF		150	35	2.1	2.1	195.00	220.0	3 800	4 800	N314E	2.900	N		
120	29	2.0	2.0	102.00	100.0	5 000	6 300	NU409M	1.970	NU	150		35	2.1	2.1	195.00	220.0	3 800	4 800	NU314E	2.900	NU			
50	80	16	1.0	0.6	31.00	34.0	8 000	9 500	NU1010M	0.320	NU		150	35	2.1	2.1	195.00	220.0	3 800	4 800	NJ314E	2.900	NJ		
	90	20	1.1	1.1	61.20	69.2	6 000	7 500	N210E	0.510	N		150	35	2.1	2.1	195.00	220.0	3 800	4 800	NUP314E	2.900	NUP		
	90	20	1.1	1.1	61.20	69.2	6 000	7 500	NU210E	0.510	NU		75	115	20	1.1	1.1	58.30	39.0	5 600	6 700	NU1015	0.740	NU	
	90	20	1.1	1.1	61.20	69.2	6 000	7 500	NJ210E	0.510	NJ			130	25	1.5	1.5	125.00	155.0	4 000	5 000	N215E	1.450	N	
	90	20	1.1	1.1	61.20	69.2	6 000	7 500</																	

FŁT Cylindrical Roller Bearings

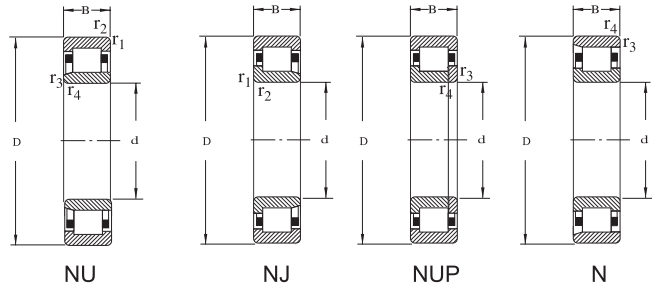
Łożyska walcowe

Single - row cylindrical roller bearings | Łożyska walcowe jednorzędowe



DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS	SKETCH	DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS	SKETCH																																																																																																																					
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE		MASA	SCHEMAT	WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE		MASA	SCHEMAT																																																																																																																					
d	D	B	r _{1,2}	r _{3,4}	dynamic	static	grease	oil					d	D	B	r _{1,2}	r _{3,4}	dynamic	static	grease	oil																																																																																																																									
mm					kN		r/min				kg		mm					kN		r/min				kg																																																																																																																						
min					C		C ₀						min					C		C ₀																																																																																																																										
90	160	30	2.0	2.0	172.00	215.0	3 400	4 300	N218E	2.440	N	110	240	50	3.0	3.0	352.00	428.0	2 000	2 800	NU322	11.100	NU	120	180	28	2.1	2.0	163.00	234.0	3 000	3 800	NU1024	2.550	NU	130	230	40	3.0	3.0	258.00	352.0	2 000	2 800	N226	7.150	N	140	250	42	3.0	3.0	302.00	415.0	1 800	2 400	N228	9.000	N	150	270	45	3.0	3.0	360.00	490.0	1 700	2 200	N230E	11.600	NU	160	290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU	170	280	58	4.0	4.0	492.00	620.0	1 700	2 200	N326	18.500	N	180	280	58	4.0	4.0	492.00	620.0	1 700	2 200	NU326	18.500	NU	190	340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N	200	340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200	NU	240	50	3.0	3.0	352.00	428.0	2 000	2 800	NCF2932V	4.100	NCF
	160	30	2.0	2.0	172.00	215.0	3 400	4 300	NU218E	2.440	NU		240	50	3.0	3.0	352.00	428.0	2 000	2 800	NJ322	11.100	NJ		180	28	2.1	2.1	163.00	234.0	3 000	3 800	NJ224	6.220	NJ		230	40	3.0	3.0	258.00	352.0	2 000	2 800	NU226	7.150	NU		250	42	3.0	3.0	302.00	415.0	1 800	2 400	NU228	9.000	NU		270	45	3.0	3.0	360.00	490.0	1 700	2 200	NU326	18.500	NU		290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU		280	58	4.0	4.0	492.00	620.0	1 700	2 200	NJ326	18.500	NJ		340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200	NU		50	3.0	3.0	352.00	428.0	2 000	2 800	NCF2932V	4.100	NCF												
	160	30	2.0	2.0	172.00	215.0	3 400	4 300	NJ218E	2.440	NJ		240	50	3.0	3.0	352.00	428.0	2 000	2 800	NUP322	11.100	NUP		180	28	2.1	2.0	163.00	234.0	3 000	3 800	NU1024	2.550	NU		230	40	3.0	3.0	258.00	352.0	2 000	2 800	N226	7.150	N		250	42	3.0	3.0	302.00	415.0	1 800	2 400	N228	9.000	N		270	45	3.0	3.0	360.00	490.0	1 700	2 200	NU326	18.500	NU		290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU		280	58	4.0	4.0	492.00	620.0	1 700	2 200	N326	18.500	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200	NU		50	3.0	3.0	352.00	428.0	2 000	2 800	NCF2932V	4.100	NCF												
	160	30	2.0	2.0	172.00	215.0	3 400	4 300	NUP218E	2.440	NUP		280	65	4.0	4.0	515.00	600.0	1 800	2 400	NU422	22.000	NU		180	28	2.1	2.1	163.00	234.0	3 000	3 800	NU1024	2.550	NU		230	40	3.0	3.0	258.00	352.0	2 000	2 800	N226	7.150	N		250	42	3.0	3.0	302.00	415.0	1 800	2 400	N228	9.000	N		270	45	3.0	3.0	360.00	490.0	1 700	2 200	NU326	18.500	NU		290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU		280	58	4.0	4.0	492.00	620.0	1 700	2 200	N326	18.500	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200	NU		50	3.0	3.0	352.00	428.0	2 000	2 800	NCF2932V	4.100	NCF												
	190	43	3.0	3.0	298.00	348.0	3 000	3 800	N318E	6.070	N		215	40	2.1	2.1	322.00	422.0	2 200	3 000	N224	6.220	N		180	28	2.1	2.0	163.00	234.0	3 000	3 800	NU1024	2.550	NU		230	40	3.0	3.0	258.00	352.0	2 000	2 800	N226	7.150	N		250	42	3.0	3.0	302.00	415.0	1 800	2 400	N228	9.000	N		270	45	3.0	3.0	360.00	490.0	1 700	2 200	NU326	18.500	NU		290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU		280	58	4.0	4.0	492.00	620.0	1 700	2 200	N326	18.500	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200	NU		50	3.0	3.0	352.00	428.0	2 000	2 800	NCF2932V	4.100	NCF												
	190	43	3.0	3.0	298.00	348.0	3 000	3 800	NU318E	6.070	NU		215	40	2.1	2.1	322.00	422.0	2 200	3 000	N224	6.220	NU		180	28	2.1	2.1	163.00	234.0	3 000	3 800	NU1024	2.550	NU		230	40	3.0	3.0	258.00	352.0	2 000	2 800	N226	7.150	N		250	42	3.0	3.0	302.00	415.0	1 800	2 400	N228	9.000	N		270	45	3.0	3.0	360.00	490.0	1 700	2 200	NU326	18.500	NU		290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU		280	58	4.0	4.0	492.00	620.0	1 700	2 200	N326	18.500	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200	NU		50	3.0	3.0	352.00	428.0	2 000	2 800	NCF2932V	4.100	NCF												
	190	43	3.0	3.0	298.00	348.0	3 000	3 800	NJ318E	6.070	NJ		215	40	2.1	2.1	322.00	422.0	2 200	3 000	N224	6.220	NJ		180	28	2.1	2.1	163.00	234.0	3 000	3 800	NU1024	2.550	NU		230	40	3.0	3.0	258.00	352.0	2 000	2 800	N226	7.150	N		250	42	3.0	3.0	302.00	415.0	1 800	2 400	N228	9.000	N		270	45	3.0	3.0	360.00	490.0	1 700	2 200	NU326	18.500	NU		290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU		280	58	4.0	4.0	492.00	620.0	1 700	2 200	N326	18.500	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200	NU		50	3.0	3.0	352.00	428.0	2 000	2 800	NCF2932V	4.100	NCF												
	190	43	3.0	3.0	298.00	348.0	3 000	3 800	NUP318E	6.070	NUP		215	40	2.1	2.1	322.00	422.0	2 200	3 000	N224	6.220	NUP		180	28	2.1	2.1	163.00	234.0	3 000	3 800	NU1024	2.550	NU		230	40	3.0	3.0	258.00	352.0	2 000	2 800	N226	7.150	N		250	42	3.0	3.0	302.00	415.0	1 800	2 400	N228	9.000	N		270	45	3.0	3.0	360.00	490.0	1 700	2 200	NU326	18.500	NU		290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU		280	58	4.0	4.0	492.00	620.0	1 700	2 200	N326	18.500	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200	NU		50	3.0	3.0	352.00	428.0	2 000	2 800	NCF2932V	4.100	NCF												
	190	64	3.0	3.0	329.00	395.0	3 000	3 800	NU2318EM	10.000	NU		215	40	2.1	2.1	322.00	422.0	2 200	3 000	N224	6.220	NU		180	28	2.1	2.1	163.00	234.0	3 000	3 800	NU1024	2.550	NU		230	40	3.0	3.0	258.00	352.0	2 000	2 800	N226	7.150	N		250	42	3.0	3.0	302.00	415.0	1 800	2 400	N228	9.000	N		270	45	3.0	3.0	360.00	490.0	1 700	2 200	NU326	18.500	NU		290	80	3.0	3.0	787.00	1146.0	1 900	2 400	NU2232E	24.300	NU		280	58	4.0	4.0	492.00	620.0	1 700	2 200	N326	18.500	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	N332	32.200	N		340	68	4.0	4.0	628.00	825.0	1 400	1 800	NU332E	32.200																								

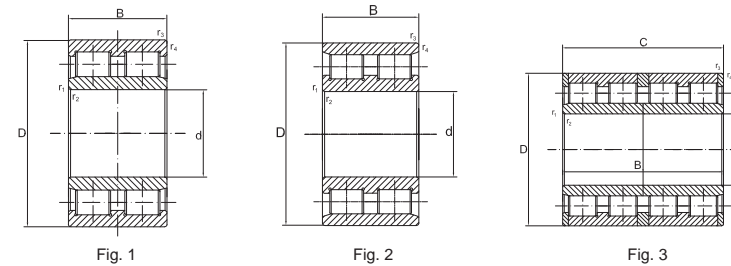
Single - row cylindrical roller bearings | Łożyska walcowe jednorzędowe



DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS	MASS	SKETCH
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE	MASA	SCHEMAT
d	D	B	r _{1,2}	r _{3,4}	dynamic	static	grease	oil	C	~	
mm	mm	mm	min	min	C	C ₀	w smarze	w oleju			
170	230	36	2.0	2.0	330.00	560.0	600	1 200	NCF2934V	4.250	NCF
	310	52	4.0	4.0	425.00	650.0	1 500	1 900	N234	18.700	N
	310	52	4.0	4.0	425.00	650.0	1 500	1 900	NU234EM	19.200	NU
	360	72	4.0	4.0	715.00	952.0	1 300	1 700	N334	37.200	N
180	280	46	4.0	4.0	340.00	485.0	2 400	2 900	NU1036EM	10.300	NU
	320	52	4.0	4.0	425.00	650.0	1 400	1 800	N236	20.000	N
	380	75	4.0	4.0	835.00	1100.0	1 200	1 600	N336	42.500	N
	380	75	4.0	4.0	905.00	1150.0	1 500	1 800	NJ336E	42.500	NJ
190	250	42	2.0	2.0	39.30	70.1	560	1 000	NCF2936V	6.200	NCF
	340	55	4.0	4.0	695.00	955.0	1 600	1 900	NU238EM	24.000	NU
	340	92	4.0	4.0	917.00	1313.0	1 600	1 900	NU2238E	37.800	NU
	400	132	5.0	5.0	1900.00	2650.0	1 200	1 500	NU1040M	84.400	NU
200	280	48	2.1	2.1	550.00	940.0	530	1 000	NCF2940V	9.150	NCF
	420	80	5.0	5.0	988.00	1300.0	1400	1 700	NU340M	57.100	NU
	270	24	1.5	1.5	181.00	385.0	900	1 100	NCF1844V	2.800	NCF
220	400	65	4.0	4.0	1060.00	1290.0	1 500	1 800	NU244	38.100	NU
	400	65	4.0	4.0	1060.00	1290.0	1 500	1 800	NUP244	38.100	NUP
	460	145	5.0	5.0	2380.00	3450.0	1 760	2 200	NU2344EMA	119.000	NU
	300	28	2.0	2.0	240.00	490.0	900	1 000	NCF1848V	4.400	NCF
240	360	56	3.0	3.0	540.00	850.0	1 600	2 000	NU1048M	19.900	NU
	400	65	4.0	4.0	6454.00	1000.0	1 600	1 900	NU1052M	29.100	NU
270	360	60	2.1	1.5	790.00	1460.0	750	950	NCF2952V	18.500	NCF
280	380	60	2.1	2.1	853.00	1670.0	700	900	NCF2956V	19.700	NCF
	580	175	5.0	5.0	2720.00	4270.0	1 360	1 700	NU2356M	226.000	NU
340	460	72	3.0	3.0	1100.00	2360.0	560	700	NCF2968V	34.800	NCF
	480	46	2.1	1.5	627.00	1290.0	530	600	NCF1876V	19.200	NCF
400	540	82	4.0	4.0	1532.00	3336.0	480	600	NCF2980V	54.300	NCF
	420	560	65	4.0	4.0	968.00	1800.0	900	1 100	NU1984M	48.000
440	560	82	4.0	4.0	1120.00	2640.0	850	1 000	NJ2984	56.900	NJ
	650	94	6.0	6.0	1560.00	2750.0	850	1 000	NU 1088EM	107.000	NU
560	680	56	3.0	3.0	768.00	1720.0	670	800	NJ18/560EMA	42.450	NJ
	750	112	5.0	5.0	2000.00	4725.0	600	750	NJ29/560	140.000	NJ
710	870	95	4.0	4.0	2080.00	5500.0	260	320	NJ28/710-M1A	124.000	NJ
22	47	18	2.0	1.0	35.00	26.0	-	-	CBK-497 *	0.140	CBK
30	61.935	19.05	2.7	1.0	37.00	44.0	-	-	CBK-239 *	0.270	CBK
49.930	80	15	0.3	0.3	28.00	33.0	-	-	CBK-238 *	0.270	CBK

* - bearings without cage with full quantity of rollers
* - łożyska bez kosza z pełną ilością walczków

Multi - row cylindrical roller bearings | Łożyska walcowe wielorzędowe

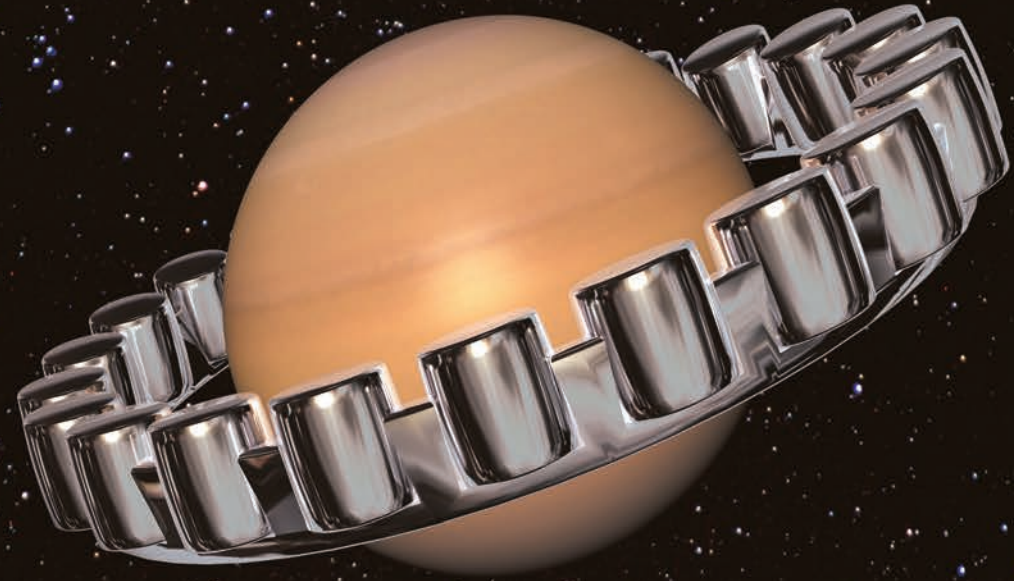


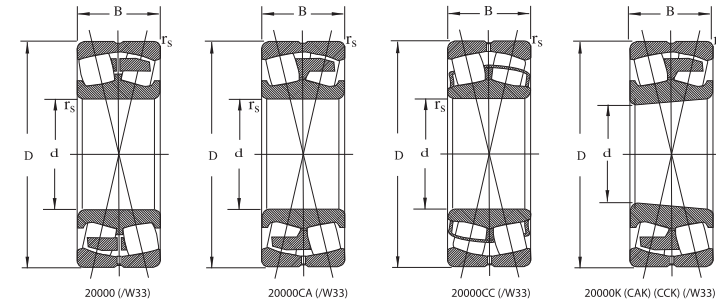
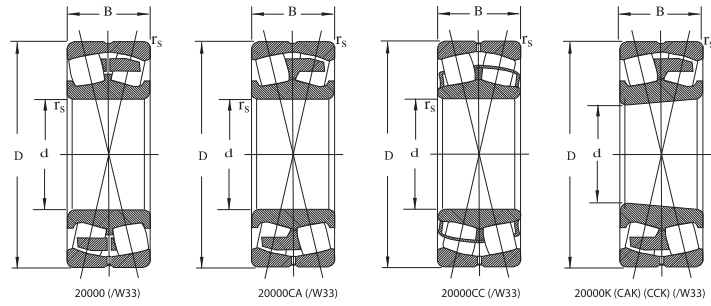
SUFFIX	Characters placed after basic designation
M	solid brass cage, centered on rolling elements ● kosz masywny mosiężny prowadzony na elementach toczych
K	bearing with tapered bore, taper 1:12 ● łożyska z otworem stożkowym, o zbieżności 1:12
FD	solid steel folded cage, centered on rolling elements ● kosz masywny stalowy składany prowadzony na elementach toczych
W33	lubrication groove and holes on outer ring ● rowek smarowy i otwory w pierścieniu zewnętrznym
V	bearing without cage with full quantity of rolling elements ● łożysko bez kosza z pełną ilością walczków

DIMENSIONS								BASIC LOAD RATING		BASIC DESIGNATION	LIMITING SPEEDS		MASS	SKETCH
WYMIARY GŁÓWNE								NOŚNOŚĆ		OZNACZENIE PODSTAWOWE	OBROTY GRANICZNE		MASA	SCHEMAT
d	D	B	C	r _{1,2}	r _{3,4}	D ₁	F	dynamic	static		grease	oil	~	
mm	mm	mm	mm	min	min	mm	mm	C	C ₀		w smarze	w oleju		
90	140	37		1.5	1.5			140	224	NN3018K	5 600	6700	2.050	FIG. 2
180	250	69		2.0	2.0			402	850	NNU4936MW33	2 720	3400	10.600	FIG. 1
220	340	90		2.0	3.0			770	1 370	NN3044KM	2 080	2600	28.2	FIG. 2
240	360	92		3.0	3.0			850	1 560	NN3048KM	2 000	2600	31.6	FIG. 2
280	380	100		2.1	2.1			1 150	2 750	NNCL4956V	720	900	32.7	FIG. 2
950	1 360	975	975	20x20°	6.0	1235	1075	31 100	104 250	229-1190FD			4700.0	FIG. 3



SPHERICAL ROLLER BEARINGS





SUFFIX Characters placed after basic designation

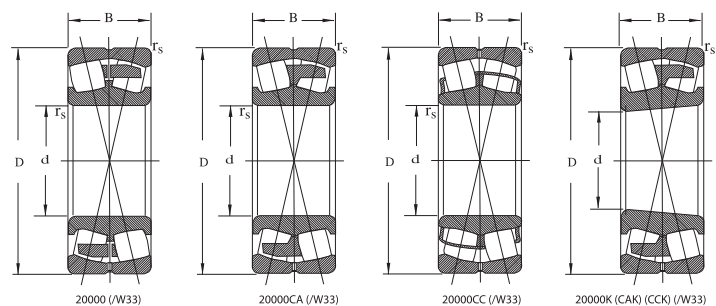
Znaki umieszczone za oznaczeniem podstawowym

CA	no middle flange on inner ring, machined brass cage guides on rolling elements ● pierścień wewnętrzny bez obrzeża środkowego, kosz mosiężny prowadzony na elementach toczych
CC	inner ring without flanges, pressed steel cage ● pierścień wewnętrzny bez obrzeży, kosz stalowy tłoczony
MB	masive brass cage guides on the inner ring ● kosz masywny mosiężny prowadzony na pierścieniu wewnętrznym
K	tapered bore (1:12 on diameter) ● otwór stożkowy (zbieżność 1:12)
K30	tapered bore (1:30 on diameter) ● otwór stożkowy (zbieżność 1:30)
W33	lubrication groove and three holes in outer ring ● łożysko z kanałkiem i trzema otworami smarowymi na pierścieniu zewnętrznym
W20	three lubrication holes in outer ring ● trzy otwory smarowe na pierścieniu zewnętrznym
C3	radial clearance greater than normal ● luz promieniowy większy od luzu normalnego -C0
C4	radial clearance greater than C3 ● luz promieniowy większy od luzu C3

DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS
WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE		MASA
d	D	B	r _{1,2}	dynamic	static	grease	oil	cylindrical bore	tapered bore	~
			min	C	C ₀	w smarze	w oleju	z otworem walcowym	z otworem stożkowym	
mm				kN		r/min				kg
20	52	15.0	1.1	30.80	31.20	6 000	7 500	21304CA		0.170
	25	52	18.0	1.0	43.00	46.00	8 000	10 000	22205CC	22205CCK
30		52	18.0	1.0	43.00	46.00	8 000	10 000	22205CA	22205CAK
	52	18.0	1.0	41.00	43.70	8 000	10 000	22205CTNI		0.180
	62	17.0	1.0	41.50	44.20	5 300	6 700	21305CA		0.280
	62	20.0	1.0	34.50	39.30	5 300	6 700	22206MB	22206MBK	0.290
35	62	20.0	1.0	57.00	60.00	6 300	8 000	22206CC	22206CCK	0.300
	62	20.0	1.0	57.00	60.00	6 700	8 500	22206CA	22206CAK	0.330
	72	19.0	1.1	55.80	62.00	4 500	6 000	21306CA	21306CAK	0.410
	72	23.0	1.1	46.60	61.30	4 800	6 000	22207MB	22207MBK	0.430
40	72	23.0	1.1	78.00	86.00	5 300	6 700	22207CC	22207CCK	0.470
	72	23.0	1.1	78.00	86.00	5 600	7 000	22207CA	22207CAK	0.440
	80	21.0	1.5	63.50	73.20	5 600	7 000	21307CA	21307CAK	0.540
	80	23.0	1.1	51.30	70.60	4 500	5 600	22208MB	22208MBK	0.560
45	80	23.0	1.1	88.00	94.00	5 000	6 000	22208CC	22208CCK	0.530
	80	23.0	1.1	88.00	94.00	5 000	6 300	22208CA	22208CAK	0.520
	90	23.0	1.5	86.20	90.40	3 600	4 500	21308CA	21308CAK	0.740
	90	33.0	1.5	75.70	93.20	4 000	5 000	22308MB	22308MBK	1.040
	90	33.0	1.5	125.00	140.00	4 300	5 300	22308CC	22308CCK	1.040
	90	33.0	1.5	125.00	140.00	4 500	6 000	22308CA	22308CAK	1.040
50	85	23.0	1.1	54.00	75.00	4 000	5 000	22209MB	22209MBK	0.590
	85	23.0	1.1	90.00	105.00	4 500	5 600	22209CC	22209CCK	0.590
	85	23.0	1.1	90.00	105.00	4 500	6 000	22209CA	22209CAK	0.580
	100	25.0	1.1	102.60	110.40	3 200	4 000	21309CA	21309CAK	1.020
	100	36.0	1.5	111.00	144.00	3 600	4 500	22309MB	22309MBK	1.390
	100	36.0	1.5	150.00	175.00	3 800	4 800	22309CC	22309CCK	1.380
55	100	36.0	1.1	150.00	175.00	4 000	5 300	22309CA	22309CAK	1.380
	90	23.0	1.1	54.00	75.00	3 800	4 800	22210MB	22210MBK	0.690
	90	23.0	1.1	93.00	110.00	4 000	5 000	22210CC	22210CCK	0.630
	90	23.0	1.1	93.00	110.00	4 300	5 300	22210CA	22210CAK	0.630
	110	27.0	2.0	120.00	140.00	2 800	3 800	21310CA	21310CAK	1.300
	110	40.0	2.0	132.00	175.00	3 400	4 300	22310MB	22310MBK	1.830
60	110	40.0	2.0	185.00	216.00	3 400	4 300	22310CC	22310CCK	1.850
	110	40.0	2.0	185.00	216.00	3 800	4 800	22310CA	22310CAK	1.790
	100	25.0	1.5	62.00	90.00	3 400	4 300	22211MB	22211MBK	0.860
	100	25.0	1.5	115.00	140.00	3 600	4 500	22211CC	22211CCK	0.860
	100	25.0	1.5	115.00	140.00	3 800	5 000	22211CA	22211CAK	0.850
	120	29.0	2.0	150.00	175.00	2 600	3 400	21311CA	21311CAK	1.650
65	120	43.0	2.0	160.00	204.00	3 000	3 800	22311MB	22311MBK	2.300
	120	43.0	2.0	220.00	258.00	3 000	3 800	22311CC	22311CCK	2.350
	120	43.0	2.0	220.00	258.00	3 400	4 300	22311CA	22311CAK	2.310

FLT Spherical Roller Bearings

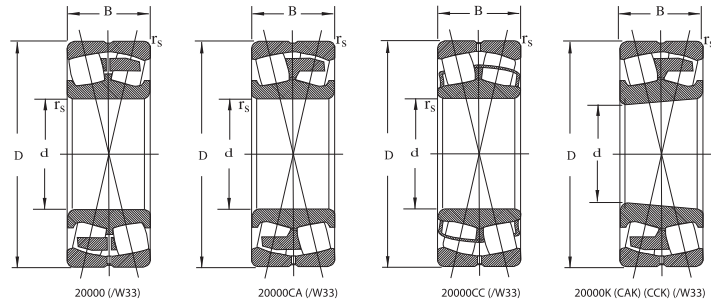
Łożyska Barytkowe



DIMENSIONS WYMIARY GŁÓWNE				BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE		MASS MASA	DIMENSIONS WYMIARY GŁÓWNE				BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE		MASS MASA	
d	D	B	r _{1,2} min	dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju	cylindrical bore z otworem walcowym	tapered bore z otworem stożkowym	~	d	D	B	r _{1,2} min	dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju	cylindrical bore z otworem walcowym	tapered bore z otworem stożkowym	~	
mm				kN		r/min				kg	mm				kN		r/min				kg	
60	110	28.0	1.5	84.00	126.00	3 200	4 000	22212MB	22212MBK	1.200	90	160	40.0	2.0	173.00	280.00	1 900	2 600	22218MB	22218MBK	4.000	
	110	28.0	1.5	135.00	163.00	3 200	4 000	22212CC	22212CCK	1.120		160	40.0	2.0	280.00	355.00	1 900	2 600	22218CC	22218CCK	3.280	
	110	28.0	1.5	135.00	163.00	3 600	4 500	22212CA	22212CAK	1.200		160	40.0	2.0	280.00	355.00	2 400	3 000	22218CA	22218CAK	3.670	
	130	31.0	2.1	162.00	195.00	2 400	3 200	21312CA	21312CAK	2.080		160	52.4	2.0	370.00	500.00	1 800	2 400	23218CC		4.400	
	130	46.0	2.1	173.00	232.00	2 800	3 600	22312MB	22312MBK	2.880		160	52.4	2.0	370.00	500.00	1 900	2 600	23218CA	23218CAK	4.550	
	130	46.0	2.1	296.00	309.00	2 800	3 600	22312CC	22312CCK	2.950		190	43.0	3.0	320.00	420.00	1 600	2 200	21318CA	21318CAK	6.170	
65	130	46.0	2.1	296.00	309.00	3 200	4 000	22312CA	22312CAK	2.920		190	64.0	3.0	376.00	558.00	1 700	2 200	22318MB	22318MBK	8.880	
	120	31.0	1.5	91.00	132.00	2 800	3 600	22213MB	22213MBK	1.550		190	64.0	3.0	500.00	641.00	2 200	2 600	22318CA	22318CAK	8.630	
	120	31.0	1.5	165.00	203.00	2 800	3 600	22213CC	22213CCK	1.520		95	170	43.0	2.1	218.00	332.00	1 800	2 400	22219MB	22219MBK	4.550
	120	31.0	1.5	165.00	203.00	3 200	4 000	22213CA	22213CAK	1.510			170	43.0	2.1	305.00	393.00	2 200	2 800	22219CA	22219CAK	4.570
	140	33.0	2.1	201.00	237.00	2 200	3 000	21313CA	21313CAK	2.570			200	45.0	3.0	355.00	485.00	1 700	2 200	21319CA	21319CAK	7.150
	140	48.0	2.1	194.00	260.00	2 400	3 200	22313MB	22313MBK	3.490			200	67.0	3.0	397.00	587.00	1 600	2 000	22319MB	22319MBK	10.380
140	48.0	2.1	318.00	362.00	2 400	3 200	22313CC	22313CCK	3.550	200			67.0	3.0	556.00	709.00	2 000	2 600	22319CA	22319CAK	9.970	
140	48.0	2.1	318.00	362.00	3 000	3 800	22313CA	22313CAK	3.510	100			165	52.0	2.1	350.00	550.00	1 700	2 200	23120CA	23120CAK	4.430
70	125	31.0	1.5	98.00	146.00	2 600	3 400	22214MB	22214MBK			1.660	180	46.0	2.1	229.00	369.00	1 700	2 200	22220MB	22220MBK	5.120
	125	31.0	1.5	175.00	221.00	3 000	3 800	22214CC	22214CCK			1.600	180	46.0	2.1	350.00	456.00	2 200	2 600	22220CA	22220CAK	5.010
	125	31.0	1.5	175.00	221.00	3 000	3 800	22214CA	22214CAK			1.630	180	60.3	2.1	450.00	650.00	1 600	2 200	23220CA	23220CAK	6.520
	150	35.0	2.1	212.00	268.00	2 000	2 800	21314CA	21314CAK			3.110	215	47.0	3.0	385.00	530.00	1 600	2 000	21320CA	21320CAK	8.810
	150	51.0	2.1	237.00	325.00	2 200	3 000	22314MB	22314MBK		4.210	215	73.0	3.0	464.00	688.00	1 400	1 800	22320MB	22320MBK	13.000	
	150	51.0	2.1	331.00	388.00	2 200	3 000	22314CC	22314CCK	4.350	215	73.0	3.0	640.00	840.00	1 900	2 400	22320CA	22320CAK	12.800		
75	150	51.0	2.1	331.00	388.00	2 800	3 400	22314CA	22314CAK	4.320	110	170	45.0	2.1	288.00	456.00	2 200	3 000	23022MB	23022MBK	3.950	
	130	31.0	1.5	98.00	146.00	2 400	4 200	22215MB	22215MBK	1.730		170	45.0	2.0	310.00	500.00	2 200	3 000	23022CA	23022CAK	3.800	
	130	31.0	1.5	180.00	232.00	2 400	3 200	22215CC	22215CCK	1.820		180	56.0	2.0	420.00	650.00	1 600	2 000	23122CA	23122CAK	5.580	
	130	31.0	1.5	180.00	232.00	3 000	3 800	22215CA	22215CAK	1.690		180	69.0	2.0	500.00	840.00	1 600	2 000	24122CA	24122CAK	6.630	
	160	37.0	2.1	238.00	302.00	1 900	2 600	21315CA	21315CAK	3.760		200	53.0	2.1	297.00	479.00	1 500	1 900	22222MB	22222MBK	7.000	
	160	55.0	2.1	270.00	400.00	2 000	2 800	22315MB	22315MBK	5.230		200	53.0	2.1	445.00	585.00	1 900	2 400	22222CA	22222CAK	7.320	
80	160	55.0	2.1	365.00	451.00	2 000	2 800	22315CC	22315CCK	5.280	200	69.8	2.1	580.00	830.00	1 500	1 900	23222CA	23222CAK	9.460		
	160	55.0	2.1	365.00	451.00	2 600	3 200	22315CA	22315CAK	5.890	240	50.0	3.0	460.00	635.00	1 400	1 800	21322CA	21322CAK	11.800		
	140	33.0	2.0	119.00	185.00	2 200	3 000	22216MB	22216MBK	2.280	240	80.0	3.0	561.00	857.00	1 200	1 600	22322MB	22322MBK	17.850		
	140	33.0	2.0	200.00	265.00	2 200	3 000	22216CC	22216CCK	2.130	240	80.0	3.0	780.00	1 000.00	1 700	2 200	22322CA	22322CAK	17.500		
	140	33.0	2.0	200.00	265.00	2 800	3 400	22216CA	22216CAK	2.260	120	180	46.0	2.0	304.00	501.00	2 000	2 800	23024MB	23024MBK	4.300	
	170	39.0	2.1	260.00	332.00	1 800	2 400	21316CA	21316CAK	4.470		180	46.0	2.0	330.00	550.00	2 000	2 800	23024CA	23024CAK	4.170	
170	58.0	2.1	297.00	417.00	1 900	2 600	22316MB	22316MBK	6.300	180		60.0	2.0	430.00	750.00	1 500	2 000	24024CA	24024CAK	5.050		
170	58.0	2.1	413.00	513.00	2 400	3 000	22316CA	22316CAK	6.320	200		62.0	2.0	500.00	755.00	1 400	1 800	23124CA	23124CAK	7.850		
85	150	36.0	2.0	149.00	235.00	2 000	2 800	22217MB	22217MBK	2.830		200	80.0	2.0	650.00	1 100.00	1 400	1 800	24124CA	24124CAK	9.650	
	150	36.0	2.0	250.00	315.00	2 000	2 800	22217CC	22217CCK	2.670		215	58.0	2.1	352.00	582.00	1 300	1 700	22224MB	22224MBK	9.070	
	150	36.0	2.0	250.00	315.00	2 600	3 200	22217CA	22217CAK	2.870	215	58.0	2.1	535.00	700.00	1 700	2 200	22224CA	22224CAK	9.140		
	180	41.0	3.0	298.00	385.00	1 700	2 200	21317CA	21317CAK	5.230	215	76.0	2.1	610.00	955.00	1 300	1 700	23224CA	23224CAK	11.700		
	180	60.0	3.0	317.00	453.00	1 800	2 400	22317MB	22317MBK	7.360	260	86.0	3.0	664.00	1 022.00	1 100	1 500	22324MB	22324MBK	22.380		
	180	60.0	3.0	447.00	556.00	2 200	2 800	22317CA	22317CAK	7.270	260	86.0	3.0	890.00	1 154.00	1 500	1 900	22324CA	22324CAK	22.200		

F&T Spherical Roller Bearings

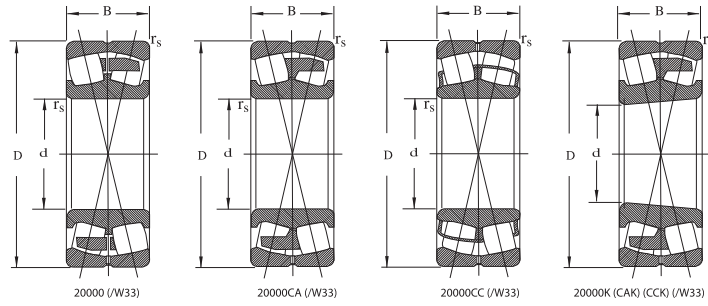
Łożyska Baryłkowe



DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS	DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS		
WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE			MASA	WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE		MASA	
d	D	B	r _{1,2}	dynamic	static	grease	oil	cylindrical bore	tapered bore	~	d	D	B	r _{1,2}	dynamic	static	grease	oil	cylindrical bore	tapered bore	~		
mm	mm	mm	min	C	C ₀	w smarze	w oleju	z otworem walcowym	z otworem stożkowym	kg	mm	mm	mm	min	C	C ₀	w smarze	w oleju	z otworem walcowym	z otworem stożkowym	kg		
130	200	52.0	2.0	386.00	630.00	1 900	2 600	23026MB	23026MBK	6.120	170	260	67.0	2.1	458.00	1 040.00	800	1 000	23034MB	23034MBK	13.000		
	200	52.0	2.0	420.00	710.00	1 900	2 600	23026CA	23026CAK	5.990		260	67.0	2.1	715.00	1 100.00	1 600	2 000	23034CA	23034CAK	12.900		
	200	69.0	2.0	472.00	852.00	1 400	1 800	24026CA	24026CAK	7.550		260	90.0	2.1	820.00	1 520.00	1 000	1 300	24034CA	24034CAK	16.700		
	210	64.0	2.0	560.00	840.00	1 300	1 700	23126CA	23126CAK	8.490		280	88.0	2.1	830.00	1 610.00	850	1 100	23134MB		22.420		
	210	64.0	2.0	496.00	826.00	1 300	1 700	23126CC		8.490		280	88.0	2.1	900.00	1 550.00	1 000	1 300	23134CA	23134CAK	21.100		
	210	80.0	2.0	585.00	1 030.00	1 300	1 700	24126CA	24126CAK	10.300		280	109.0	2.1	1 070.00	1 930.00	1 000	1 300	24134CA	24134CAK	25.500		
	230	64.0	3.0	420.00	729.00	1 200	1 600	22226MB	22226MBK	11.380		310	86.0	4.0	740.00	1 330.00	850	1 100	22234MB	22234MBK	29.000		
	230	64.0	3.0	600.00	860.00	1 600	2 000	22226CA	22226CAK	11.200		310	86.0	4.0	1 100.00	1 520.00	1 100	1 400	22234CA	22234CAK	28.100		
	230	80.0	3.0	678.00	1 080.00	1 200	1 600	23226CA	23226CAK	13.800		310	110.0	4.0	1 350.00	2 100.00	900	1 200	23234CA	23234CAK	35.700		
	280	93.0	4.0	744.00	1 170.00	950	1 300	22326MB	22326MBK	28.170		360	120.0	4.0	1 180.00	2 120.00	750	950	22334MB	22334MBK	60.000		
	280	93.0	4.0	1 020.00	1 340.00	1 400	1 800	22326CA	22326CAK	27.500		360	120.0	4.0	1 550.00	2 140.00	950	1 300	22334CA	22334CAK	59.300		
140	210	53.0	2.0	294.00	654.00	950	1 300	23028MB	23028MBK	6.300	180	280	74.0	2.1	556.00	1 260.00	750	950	23036MB	23036MBK	17.600		
	210	53.0	2.0	460.00	765.00	1 800	2 400	23028CA	23028CAK	6.400		280	74.0	2.1	850.00	1 410.00	1 400	1 800	23036CA	23036CAK	17.000		
	210	53.0	2.0	460.00	765.00	1 800	2 400	23028CC	23028CCK	6.400		280	100.0	2.1	950.00	1 200.00	965	1 750	24036MB		22.700		
	210	69.0	2.0	488.00	895.00	1 300	1 700	24028CA	24028CAK	8.010		280	100.0	2.1	980.00	1 800.00	950	1 200	24036CA	24036CAK	22.100		
	225	68.0	2.1	610.00	970.00	1 200	1 600	23128CA	23128CAK	10.200		300	96.0	3.0	1 100.00	1 900.00	900	1 200	23136CA	23136CAK	26.900		
	225	85.0	2.1	750.00	1 320.00	1 200	1 600	24128CA	24128CAK	12.500		300	118.0	3.0	1 250.00	2 210.00	900	1 200	24136CA	24136CAK	32.000		
	250	68.0	3.0	492.00	829.00	1 000	1 400	22228MB	22228MBK	14.200		320	86.0	4.0	757.00	1 410.00	800	1 000	22236MB	22236MBK	30.000		
	250	68.0	3.0	710.00	1 000.00	1 400	1 700	22228CA	22228CAK	14.480		320	86.0	4.0	1 140.00	1 600.00	1 100	1 300	22236CA	22236CAK	29.400		
	250	88.0	3.0	900.00	1 360.00	1 100	1 500	23228CA	23228CAK	18.100		320	112.0	4.0	1 280.00	2 170.00	850	1 100	23236CA	23236CAK	37.900		
	300	102.0	4.0	925.00	1 340.00	900	1 200	22328MB	22328MBK	34.840		380	126.0	4.0	1 290.00	2 330.00	700	900	22336MB	22336MBK	70.000		
	300	102.0	4.0	1 200.00	1 620.00	1 300	1 700	22328CA	22328CAK	34.600		380	126.0	4.0	1 730.00	2 460.00	900	1 200	22336CA	22336CAK	70.400		
	150	225	56.0	2.1	338.00	790.00	900	1 200	23030MB	23030MBK		8.190	190	290	75.0	2.1	570.00	1 260.00	700	900	23038MB	23038MBK	20.000
		225	56.0	2.1	510.00	855.00	1 700	2 200	23030CA	23030CAK		8.120		290	75.0	2.1	905.00	1 515.00	1 300	1 700	23038CA	23038CAK	18.000
225		75.0	2.1	650.00	1 200.00	1 200	1 500	24030CA	24030CAK	10.100	290	100.0		2.1	975.00	1 910.00	900	1 200	24038MB	24038MBK	23.000		
250		80.0	2.1	830.00	1 300.00	1 100	1 400	23130CA	23130CAK	15.700	290	100.0		2.1	1 000.00	1 900.00	900	1 200	24038CA	24038CAK	23.000		
250		100.0	2.1	890.00	1 600.00	1 100	1 400	24130CA	24130CAK	19.000	320	104.0		3.0	1 200.00	2 120.00	850	1 100	23138CA	23138CAK	33.600		
270		73.0	3.0	523.00	900.00	950	1 300	22230MB	22230MBK	18.420	320	128.0		3.0	1 410.00	2 590.00	850	1 100	24138CA	24138CAK	40.200		
270		73.0	3.0	820.00	1 200.00	1 300	1 600	22230CA	22230CAK	18.000	340	92.0		4.0	842.00	1 555.00	750	950	22238MB	22238MBK	37.400		
270		96.0	3.0	948.00	1 540.00	1 100	1 400	23230CA	23230CAK	23.200	340	92.0		4.0	1 200.00	1 800.00	800	1 100	22238CA	22238CAK	36.200		
320		108.0	4.0	1 050.00	1 790.00	850	1 100	22330MB	22330MBK	42.340	340	120.0		4.0	1 550.00	2 500.00	800	1 100	23238CA	23238CAK	46.100		
320		108.0	4.0	1 370.00	1 850.00	1 200	1 500	22330CA	22330CAK	42.000	400	132.0		5.0	1 430.00	2 600.00	670	850	22338MB	22338MBK	81.000		
160		240	60.0	2.1	379.00	850.00	850	1 100	23032MB	23032MBK	9.600	340		92.0	4.0	1 860.00	2 650.00	850	1 100	22338CA	22338CAK	78.800	
		240	60.0	2.1	590.00	980.00	1 700	2 200	23032CA	23032CAK	9.480	200		310	82.0	2.1	597.00	1 340.00	670	850	23040MB	23040MBK	24.000
		240	80.0	2.1	780.00	1 420.00	1 100	1 400	24032CA	24032CAK	12.200			310	82.0	2.1	1 050.00	1 720.00	670	850	23040CA	23040CAK	23.000
		270	86.0	2.1	950.00	1 510.00	1 000	1 300	23132CA	23132CAK	19.800			310	109.0	2.1	1 290.00	2 120.00	850	1 100	24040MB		31.600
		270	109.0	2.1	1 080.00	1 886.00	900	1 200	24132MB		25.080			310	109.0	2.1	1 180.00	2 260.00	850	1 100	24040CA	24040CAK	29.300
	270	109.0	2.1	1 040.00	1 880.00	1 000	1 300	24132CA	24132CAK	24.400	340		112.0	3.0	1 280.00	2 100.00	800	1 000	23140CA	23140CAK	41.600		
	290	80.0	3.0	660.00	1 170.00	900	1 200	22232MB	22232MBK	22.200	340		140.0	3.0	1 480.00	2 550.00	800	1 000	24140MB		49.550		
	290	80.0	3.0	950.00	1 330.00	1 200	1 500	22232CA	22232CAK	22.950	340		140.0	3.0	1 680.00	3 000.00	800	1 000	24140CA	24140CAK	49.900		
	290	104.0	3.0	1 200.00	1 880.00	1 100	1 400	23232CA	23232CAK	29.400	360		98.0	4.0	947.00	1 790.00	700	900	22240MB	22240MBK	47.700		
	340	114.0	4.0	1 070.00	1 820.00	800	1 000	22332MB	22332MBK	51.000	360		98.0	4.0	1 310.00	2 010.00	750	1 000	22240CA	22240CAK	43.900		
340	114.0	4.0	1 420.00	1 930.00	950	1 300	22332CA	22332CAK	51.900	360	128.0		4.0	1 650.00	2 700.00	750	1 000	23240CA	23240CAK	55.400			
											420	138.0	5.0	1 530.00	2 880.00	630	800	22340MB	22340MBK	94.000			
											420	138.0	5.0	2 050.00	3 000.00	850	110	22340CA	22340CAK	94.000			
											280	60.0	5.0	550.00	1 100.00	1 000	1 400	23940CA	23940CAK	11.900			

FŁT Spherical Roller Bearings

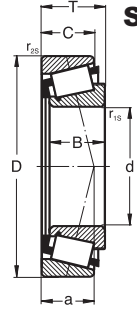
Łożyska Barytkowe



DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS	DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS					
WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTYS GRANICZNE		OZNACZENIE PODSTAWOWE		MASA	WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTYS GRANICZNE		OZNACZENIE PODSTAWOWE		MASA					
d	D	B	r _{1,2}	dynamic	static	grease	oil	cylindrical bore	tapered bore	~	d	D	B	r _{1,2}	dynamic	static	grease	oil	cylindrical bore	tapered bore	~					
mm	mm	mm	mm	C	C ₀	w smarze	w oleju	z otworem walcowym	z otworem stożkowym	kg	mm	mm	mm	mm	C	C ₀	w smarze	w oleju	z otworem walcowym	z otworem stożkowym	kg					
220	340	90.0	3.0	783.00	1 860.00	600	750	23044MB	23044MBK	28.800	340	420	60.0	2.1	765.00	1 830.00	630	800				17.800				
	340	90.0	3.0	1 100.00	1 900.00	600	750	23044CA	23044CAK	29.200		460	90.0	3.0	1 200.00	2 700.00	900	1 200				45.600				
	340	118.0	3.0	1 350.00	2 580.00	750	1 000	24044CA	24044CAK	38.100		520	133.0	5.0	2 360.00	4 550.00	850	1 000	23068CA	23068CAK		105.000				
	370	120.0	4.0	1 570.00	2 820.00	700	950	23144CA	23144CAK	51.500		580	190.0	5.0	4 050.00	6 700.00	500	630	23168MB	23168MBK		216.000				
	370	150.0	4.0	1 500.00	2 400.00	730	1 300	24144MB		68.000		620	224.0	6.0	4 900.00	7 600.00	500	630	23268MB	23268MBK		305.000				
	370	150.0	4.0	1 880.00	3 400.00	730	1 300	24144CA	24144CAK	65.600		620	224.0	6.0	4 900.00	7 600.00	500	630	23268CA	23268CAK		290.000				
	400	108.0	4.0	1 200.00	2 280.00	630	800	22244MB	22244MBK	61.500		520	180.0	5.0	3 050.00	6 500.00	500	630	24068CA	24068CAK		143.000				
	400	108.0	4.0	1 600.00	2 410.00	630	800	22244CA	22244CAK	58.400		540	134.0	5.0	2 280.00	4 800.00	670	850	23072CA			126.000				
	400	144.0	4.0	2 070.00	3 620.00	670	900	23244CA	23244CAK	78.500		360	480	90.0	3.0	1 370.00	2 980.00	600	750			23972CAK		46.600		
	460	145.0	5.0	1 740.00	3 290.00	560	700	22344MB	22344MBK	120.000			540	180.0	5.0	3 250.00	6 800.00	450	560			24072CAK30		145.000		
460	145.0	5.0	3 230.00	3 400.00	750	950	22344CA	22344CAK	119.000	600	192.0		5.0	3 800.00	7 350.00	560	850	23172CA	23172CAK		230.000					
240	360	92.0	3.0	820.00	2 120.00	530	670	23048MB	23048MBK	35.500	650		232.0	6.0	4 900.00	9 200.00	450	560	23272MB	23272MBK		349.000				
	360	118.0	3.0	1 400.00	2 850.00	700	950	24048CA	24048CAK	40.800	380		480	75.0	2.1	1 020.00	2 360.00	700	900			23876CAK		32.200		
	400	128.0	4.0	1 790.00	3 220.00	670	850	23148CA	23148CAK	63.700			560	135.0	5.0	2 550.00	5 300.00	630	800			23076MBK		113.000		
	400	160.0	4.0	2 160.00	4 090.00	670	850	24148MB		76.900			560	180.0	5.0	3 150.00	6 800.00	480	600			24076MBK30		153.000		
	440	120.0	4.0	1 950.00	3 000.00	700	900	22248CA	22248CAK	82.400			620	194.0	5.0	3 400.00	7 350.00	400	500			23176CAK		244.000		
	500	155.0	5.0	2 680.00	4 010.00	670	850	22348CA	22348CAK	150.000			400	540	106.0	4.0	1 830.00	4 150.00	710	900	23980CA	23980CAK		72.900		
	260	400	104.0	4.0	1 450.00	2 700.00	500	630	23052MB	23052MBK				51.500	600	148.0	5.0	2 790.00	5 900.00	600	750	23080CA				154.000
		400	140.0	4.0	1 790.00	3 740.00	630	850	24052CA	24052CAK		62.400		600	200.0	5.0	3 600.00	7 800.00	450	560			24080CAK30		202.000	
		440	144.0	4.0	2 550.00	3 900.00	600	800	23152MB	23152MBK		90.200		720	256.0	6.0	5 700.00	10 800.00	375	700	23280CA	23280CAK		469.000		
		440	144.0	4.0	2 550.00	3 900.00	600	800	23152CA	23152CAK		88.200		420	620	150.0	5.0	2 970.00	6 400.00	700	900			23084MBK		149.000
480		130.0	5.0	2 240.00	3 450.00	1 080	1 100	22252MB	22252MBK	110.000		440			600	118.0	5.0	2 450.00	4 900.00	670	850	23988CA				99.500
480		174.0	5.0	2 900.00	4 800.00	630	800	23252CA	23252CAK	142.000	650				157.0	6.0	3 400.00	7 100.00	610	750	23088CA	23088CAK		190.000		
280		380	75.0	2.1	897.00	980.00	1 000	1 400		23956CAK	26.000				720	226.0	6.0	5 150.00	10 300.00	400	500	23188CA	23188CAK		370.000	
		420	106.0	4.0	1 110.00	2 760.00	450	560	23056MB	23056MBK	62.000				720	280.0	6.0	6 400.00	13 200.00	255	600	24188ECA	24188ECAK		453.000	
		420	106.0	4.0	1 550.00	2 950.00	560	750	23056CA	23056CAK	57.000				480	700	165.0	6.0	3 630.00	7 270.00	380	480			23096MB	
		560	146.0	5.0	2 350.00	4 400.00	560	750	23156CA	23156CAK	95.100		870			310.0	7.5	6 750.00	15 200.00	340	430	23296CA	23296CAK		835.000	
	500	176.0	5.0	2 980.00	5 200.00	600	750	23256CA	23256CAK	148.000	500		720			167.0	6.0	3 900.00	8 500.00	520	670	230500CA	230500CAK		233.000	
	420	140.0	4.0	1 980.00	3 980.00	600	750	24056CA	24056CAK	68.000			830			264.0	7.5	7 100.00	14 300.00	280	360			231500MBK		556.000
	460	180.0	5.0	2 680.00	5 150.00	560	700	24156CA	24156CAK	113.000			560			750	140.0	5.0	3 050.00	7 350.00	340	430	239560CA	239560CAK		183.000
	500	130.0	5.0	2 320.00	3 700.00	1 010	1 100	22256CA	22256CAK	110.000			600	800		150.0	5.0	3 900.00	8 300.00	320	400	239600CA		220.000		
	300	460	118.0	4.0	1 920.00	3 600.00	800	1 000	23060CA	23060CAK		71.500	630	920		212.0	7.0	6 700.00	12 500.00	260	340	230630CA		485.000		
		500	160.0	5.0	2 600.00	4 900.00	600	750	23160CA	23160CAK		130.000	630	920		212.0	7.5	6 300.00	13 700.00	385	500	230630MB	230630MBK		496.000	
460		160.0	4.0	2 480.00	5 150.00	560	700	24060CA	24060CAK	97.600		710	1 030	315.0		10.0	9 370.00	22 800.00	190	260	240710CA		895.000			
540		192.0	5.0	3 450.00	6 200.00	560	1 000	23260CA	23260CAK	195.000			850	1 030		136.0	5.0	3 340.00	10 000.00	260	530	238850CA	238850CAK		240.000	
320		440	90.0	3.0	1 310.00	2 750.00	940	1 100	23964CA	23964CAK			41.000													
		480	121.0	4.0	2 040.00	4 000.00	910	1 100	23064CA	23064CAK			79.900													
		540	176.0	5.0	3 200.00	5 800.00	650	950	23164CA	23164CAK	170.000															
		540	218.0	5.0	3 800.00	7 350.00	480	600		24164MBK	197.000															

TAPERED ROLLER BEARINGS





Single - row metric size | Jednorzędowe - metryczne



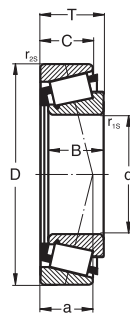
SUFFIX	Characters placed after basic designation
Znaki umieszczone za oznaczeniem podstawowym	
A	modified internal design-increased capacity ● zmodyfikowana konstrukcja wewnętrzna zwiększająca nośność
P6	accuracy to ISO tolerance class 6 ● klasa dokładności 6 wg ISO
X	boundary dimensions altered to conform to ISO standards ● wymiary główne niezgodne z normą ISO 355
FD	solid collapsible steel cage ● koszyk masywny stalowy
B	Increased contact angle ● powiększony kąt działania łożyska

DIMENSIONS								BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS
WYMIARY GŁÓWNE								NOŚNOŚĆ		OBROTY GRANICZNE		MASA	
d	D	B	C	T	r _{1s}	r _{2s}	a	dynamic	static	grease	oil	~	
mm								C	C ₀	w smarze	w oleju	kg	
min								min	~				
15	35	11.0	10.0	11.75	0.60	0.6	10	15.0	14.3	12 000	16 000	0.057	30202A
	42	13.0	11.0	14.25	1.00	1.0	10	22.9	21.6	10 000	15 000	0.094	30302A
17	40	12.0	11.0	13.25	1.00	1.0	10	19.3	18.8	9 000	13 000	0.070	30203A
	47	14.0	12.0	15.25	1.00	1.0	10	26.0	25.7	8 500	12 000	0.130	30303A
	47	19.0	16.0	20.25	1.00	1.0	12	35.3	36.3	8 000	11 000	0.170	32303A
20	42	15.0	12.0	15.00	0.60	0.6	10	25.1	28.2	9 000	13 000	0.100	32004X
	47	14.0	12.0	15.25	1.00	1.0	11	27.5	28.0	8 000	11 000	0.120	30204A
	52	15.0	13.0	16.25	1.50	1.5	11	31.6	32.0	8 000	11 000	0.170	30304A
	52	21.0	18.0	22.25	1.50	1.5	11	44.0	45.5	7 500	11 000	0.230	32304A
25	47	15.0	11.5	15.00	0.60	0.6	12	28.0	34.1	8 000	11 000	0.120	32005X
	52	15.0	13.0	16.25	1.00	1.0	12	33.2	36.2	10 400	13 000	0.160	30205A
	62	17.0	15.0	18.25	1.50	1.5	13	44.6	43.0	6 700	9 000	0.260	30305A
	62	17.0	13.0	18.25	1.50	1.5	20	38.0	40.0	5 600	7 500	0.220	31305A
	52	18.0	15.0	19.25	1.00	1.0	18	41.3	49.2	7 000	9 500	0.190	32205A
	52	22.0	18.0	22.00	1.00	1.0	14	47.1	55.8	6 700	9 000	0.230	33205A
	62	24.0	20.0	25.25	1.50	1.5	15	65.0	69.3	6 000	8 000	0.360	32305A
30	55	17.0	13.0	17.00	1.00	1.0	14	35.7	46.8	6 700	9 000	0.170	32006XA
	62	16.0	14.0	17.25	1.00	1.0	14	43.8	48.1	8 800	11 000	0.230	30206A
	62	16.0	14.0	17.25	1.00	1.0	14	45.5	50.5	6 300	8 500	0.230	30206XA
	62	20.0	17.0	21.25	1.00	1.0	15	53.0	62.0	8 800	11 000	0.290	32206A
	62	25.0	19.5	25.00	1.00	1.0	16	63.8	75.4	5 600	7 500	0.370	33206A
	72	19.0	16.0	20.75	1.50	1.5	15	60.1	60.9	8 000	10 000	0.390	30306A
	72	27.0	23.0	28.75	1.50	1.5	18	76.5	85.0	5 300	7 000	0.540	32306A
	72	19.0	14.0	20.75	1.50	1.5	22	47.3	50.0	5 000	6 700	0.370	31306A

DIMENSIONS								BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS
WYMIARY GŁÓWNE								NOŚNOŚĆ		OBROTY GRANICZNE		MASA	
d	D	B	C	T	r _{1s}	r _{2s}	a	dynamic	static	grease	oil	~	
mm								C	C ₀	w smarze	w oleju	kg	
min								min	~				
35	62	18.0	14.0	18.00	1.00	1.0	15	40.7	54.1	8 800	11 000	0.220	32007XA
	72	17.0	15.0	18.25	1.50	1.5	15	51.2	56.0	5 300	7 000	0.330	30207A
	72	23.0	19.0	24.25	1.50	1.5	17	70.0	83.0	7 600	9 500	0.490	32207A
	72	28.0	22.0	28.00	1.55	1.5	18	84.4	108.0	7 600	9 500	0.520	33207A
	80	21.0	18.0	22.75	2.00	1.5	16	76.5	79.0	7 200	9 000	0.520	30307A
	80	31.0	25.0	32.75	2.00	1.5	20	95.2	106.0	4 800	6 300	0.720	32307A
	80	21.0	15.0	22.75	2.00	1.5	25	59.7	63.9	4 500	6 000	0.500	31307A
40	68	19.0	14.5	19.00	1.00	1.0	15	54.0	71.0	5 300	7 000	0.270	32008X
	68	19.0	14.5	19.00	1.00	1.0	15	54.0	71.0	5 300	7 000	0.270	32008X
	68	22.0	18.0	22.00	1.00	1.0	15	60.2	79.6	5 300	7 000	0.306	33008A
	80	18.0	16.0	19.75	1.50	1.5	16	64.9	72.0	6 800	8 500	0.420	30208A
	80	23.0	19.0	24.75	1.50	1.5	19	77.0	89.5	6 800	8 500	0.530	32208A
	80	32.0	25.0	32.00	1.50	1.5	21	105.8	135.5	4 500	6 000	0.720	33208A
	90	23.0	20.0	25.25	2.00	1.5	19	85.8	95.0	4 500	6 000	0.740	30308A
	90	33.0	27.0	35.25	2.00	1.5	23	117.9	142.7	4 000	5 300	0.990	32308A
	90	33.0	27.0	35.25	2.00	1.5	23	115.7	147.8	4 300	5 600	1.040	32308B
	90	23.0	17.0	25.25	2.00	1.5	28	73.7	81.5	4 000	5 300	0.680	31308A
45	75	20.0	15.5	20.00	1.00	1.0	17	61.0	86.5	4 800	6 300	0.340	32009A
	75	20.0	15.5	20.00	1.00	1.0	17	58.4	81.4	4 800	6 300	0.340	32009XA
	75	24.0	19.0	24.00	1.00	1.0	16	72.6	100.4	4 800	6 300	0.398	33009A
	80	26.0	20.5	26.00	1.50	1.5	19	87.1	117.2	4 800	6 300	0.535	33109
	85	19.0	16.0	20.75	1.50	1.5	18	71.1	83.4	6 400	8 000	0.470	30209A
	85	19.0	16.0	20.75	1.50	1.5	18	67.9	83.6	4 300	6 000	0.470	30209XA
	85	23.0	19.0	24.75	1.50	1.5	20	80.9	98.0	4 500	6 000	0.590	32209A
	85	32.0	25.0	32.00	1.50	2.0	22	99.5	124.0	4 000	5 300	0.820	33209X
	85	32.0	25.0	32.00	1.50	1.5	22	109.5	145.1	4 300	5 600	0.770	33209A
	100	25.0	22.0	27.25	2.00	1.5	21	108.0	120.0	4 000	5 300	0.990	30309A
	100	36.0	30.0	38.25	2.00	1.5	25	140.0	170.0	3 600	4 800	1.330	32309A
	100	25.0	18.0	27.25	2.00	1.5	31	87.6	101.1	3 400	4 500	0.910	31309A
	100	36.0	30.0	38.25	2.00	1.5	30	145.3	189.4	3 600	4 800	1.400	32309B
50	80	20.0	15.5	20.00	1.00	1.0	18	61.1	89.0	4 500	6 000	0.370	32010X
	80	24.0	19.0	24.00	1.00	1.0	17	76.8	110.9	4 300	5 600	0.430	33010A
	85	26.0	20.0	26.00	1.50	1.5	20	89.3	124.1	4 300	5 600	0.590	33110A
	90	20.0	17.0	21.75	1.50	1.5	19	76.5	91.5	4 300	5 600	0.540	30210A
	90	23.0	19.0	24.75	1.50	1.5	21	85.5	106.0	6 000	7 500	0.630	32210A
	90	32.0	24.5	32.00	1.50	1.5	23	112.9	154.6	4 000	5 300	0.830	33210A
	110	27.0	23.0	29.25	2.50	2.0	23	139.0	161.0	5 040	6 300	1.200	30310A
	110	40.0	33.0	42.25	2.50	2.0	27	181.0	229.0	5 040	6 300	1.740	32310AX1
	110	40.0	33.0	42.25	2.50	2.0	33	177.5	236.1	3 400	4 500	1.890	32310B
	110	27.0	19.0	29.25	2.50	2.0	34	105.0	138.0	3 200	4 300	1.160	31310A
55	90	23.0	17.5	23.00	1.50	1.5	20	80.2	117.2	4 000	5 300	0.560	32011A
	90	23.0	17.5	23.00	1.50	1.5	20	80.2	117.2	3 800	5 000	0.550	32011X
	90	27.0	21.0	27.00	1.50	1.5	19	94.9	144.7	4 000	5 400	0.640	33011
	95	30.0	23.0	30.00	1.50	1.5	22	114.0	163.0	3 800	5 000	0.843	33111A
	100	21.0	18.0	22.75	2.00	1.5	20	90.3	106.3	3 800	5 000	0.720	30211A
	100	25.0	21.0	26.75	2.00	1.5	22	132.0	151.0	5 360	6 700	0.840	32211A
	100	35.0	27.0	35.00	2.00	1.5	25	138.0	190.0	3 400	4 500	1.200	33211A

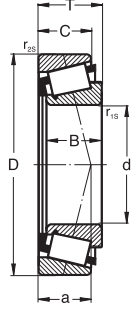
F&T Tapered Roller Bearings

łożyska stożkowe



Single - row metric size | Jednorzędowe - metryczne

DIMENSIONS								BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	DIMENSIONS								BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE
WYMIARY GŁÓWNE								NOŚNOŚĆ		OBROTY GRANICZNE		MASA		WYMIARY GŁÓWNE								NOŚNOŚĆ		OBROTY GRANICZNE		MASA	
d	D	B	C	T	r _{1s}	r _{2s}	a	dynamic	static	grease	oil	~		d	D	B	C	T	r _{1s}	r _{2s}	a	dynamic	static	grease	oil	~	
mm	mm	mm	mm	mm	min	min	mm	kN	C _o	r/min	r/min	kg		mm	mm	mm	mm	mm	min	min	mm	kN	C _o	r/min	r/min	kg	
55	120	29.0	25.0	31.50	2.50	2.0	24	135.0	179.0	3 200	4 300	1.530	30311A	80	140	33.0	29.0	35.25	2.50	2.0	30	194.0	257.0	3 600	4 500	2.000	32216A
	120	43.0	35.0	45.50	2.50	2.0	29	200.0	275.0	3 000	4 000	2.200	32311A		140	46.0	35.0	46.00	2.50	2.0	35	245.7	361.8	2 400	3 400	2.830	33216A
	120	43.0	35.0	45.50	2.50	2.0	36	203.0	271.4	3 000	4 000	2.370	32311B		170	39.0	33.0	42.50	3.00	2.5	33	271.0	377.0	2 400	3 400	4.000	30316A
	120	29.0	21.0	31.50	2.50	2.0	37	118.3	131.8	2 800	3 800	1.500	31311A		170	58.0	48.0	61.50	3.00	2.5	41	386.0	508.0	3 440	4 300	5.900	32316A
60	85	17.0	14.0	17.00	1.00	1.0	16	46.0	78.0	4 000	5 300	0.290	32912X	85	130	29.0	22.0	29.00	1.50	1.5	28	139.8	220.3	2 600	3 600	1.320	32017X
	95	23.0	17.5	23.00	1.50	1.5	21	81.7	122.2	3 800	5 000	0.590	32012X		130	36.0	29.5	36.00	1.50	1.5	27	183.0	310.0	3 840	4 800	1.720	33017
	95	27.0	21.0	27.00	1.50	1.5	20	96.5	150.0	3 800	5 000	0.691	33012A		140	41.0	32.0	41.00	2.50	2.0	32	215.7	354.2	2 400	3 400	2.450	33117A
	100	30.0	23.0	30.00	1.50	1.5	23	117.1	173.2	3 400	4 500	0.895	33112A		150	49.0	37.0	49.00	2.50	2.0	42	296.0	444.0	2 200	3 200	3.670	33217A
	110	22.0	19.0	23.75	2.00	1.5	22	98.0	125.0	3 400	4 500	0.860	30212A		150	28.0	24.0	30.50	2.50	2.0	30	187.0	238.0	3 440	4 300	2.000	30217A
	110	28.0	24.0	29.75	2.00	1.5	24	126.0	174.0	3 400	4 500	1.100	32212A		150	36.0	30.0	38.50	2.50	2.0	33	223.0	299.0	3 440	4 300	2.690	32217A
	110	38.0	29.0	38.00	2.00	1.5	28	165.8	231.4	3 200	4 300	1.510	33212A		180	41.0	34.0	44.50	4.00	3.0	35	307.0	370.0	3 200	4 000	5.100	30317A
	130	31.0	26.0	33.50	3.00	2.5	26	177.0	206.0	4 240	5 300	1.900	30312A		180	60.0	49.0	63.50	4.00	3.0	42	406.0	597.0	2 000	3 200	6.950	32317A
	130	46.0	37.0	48.50	3.00	2.5	31	229.0	323.0	2 600	3 600	2.800	32312A	90	140	32.0	24.0	32.00	2.00	1.5	30	168.0	252.0	3 440	4 300	1.750	32018X
	130	31.0	22.0	33.50	3.00	2.5	39	138.0	151.0	2 600	3 600	1.830	31312A		140	39.0	32.5	39.00	2.00	1.5	28	232.6	388.6	2 500	3 300	2.200	33018
65	100	23.0	17.5	23.00	1.50	1.5	22	90.0	136.0	4 800	6 000	0.630	32013X		150	45.0	35.0	45.00	2.50	2.0	35	262.0	419.0	2 000	3 200	3.180	33118A
	100	27.0	21.0	27.00	1.50	1.5	21	100.9	163.6	4 800	6 000	0.723	33013		160	30.0	26.0	32.50	2.50	2.0	31	194.0	273.0	2 000	3 000	2.490	30218A
	110	34.0	26.5	34.00	1.50	1.5	26	142.8	220.4	3 200	4 300	1.300	33113A		160	40.0	34.0	42.50	2.50	2.0	36	266.0	366.0	3 200	4 000	3.300	32218A
	120	23.0	20.0	24.75	2.00	1.5	23	115.0	150.0	3 000	4 000	1.100	30213A		190	43.0	36.0	46.50	4.00	3.0	36	327.0	439.0	1 800	2 600	5.500	30318A
	120	31.0	27.0	32.75	2.00	1.5	27	160.9	221.7	3 000	4 000	1.500	32213A		190	64.0	53.0	67.50	4.00	3.0	44	429.0	639.0	1 800	2 400	8.230	32318A
	120	41.0	32.0	41.00	2.00	1.5	29	202.2	281.6	4 240	5 300	2.050	33213A	95	145	32.0	24.0	32.00	2.00	1.5	32	174.0	281.0	2 200	3 200	1.790	32019X
	120	41.0	32.0	41.00	2.00	1.5	29	194.0	258.0	4 240	5 300	1.920	33213C		145	39.0	32.5	39.00	2.00	1.5	29	231.0	390.0	2 200	3 200	2.260	33019A
	140	33.0	28.0	36.00	3.00	2.5	28	194.0	249.0	2 600	3 600	2.300	30313A		170	32.0	27.0	34.50	3.00	2.5	33	217.0	305.0	1 900	2 800	2.960	30219A
	140	48.0	39.0	51.00	3.00	2.5	33	260.0	360.0	2 400	3 400	3.400	32313A		170	43.0	37.0	45.50	3.00	2.5	39	300.0	419.0	3 040	3 800	4.320	32219A
	140	33.0	23.0	36.00	3.00	2.5	42	156.0	197.0	2 200	3 200	2.250	31313A		170	58.0	44.0	58.00	3.00	2.5	42	377.0	568.0	1 900	2 800	5.500	32119A
70	100	20.0	16.0	20.00	1.00	1.0	18	68.5	110.0	3 400	4 600	0.480	32914X		200	45.0	38.0	49.50	4.00	3.0	39	372.0	472.0	1 800	2 600	6.500	30319A
	110	25.0	19.0	25.00	1.50	1.5	23	107.0	159.0	4 480	5 600	0.840	32014X		200	67.0	55.0	71.50	4.00	3.0	47	485.0	721.0	1 700	2 400	9.550	32319A
	110	31.0	25.5	31.00	1.50	1.5	22	134.4	220.4	3 000	4 000	1.070	33014A	100	150	32.0	24.0	32.00	2.00	1.5	33	173.1	291.7	2 200	3 000	1.850	32020X
	120	37.0	29.0	37.00	2.00	1.5	28	172.1	267.0	4 000	5 300	1.700	33114		150	39.0	32.5	39.00	2.00	1.5	29	229.5	391.5	2 200	3 200	2.330	33020A
	125	24.0	21.0	26.25	2.00	1.5	25	128.0	156.0	4 240	5 300	1.220	30214A		145	22.5	17.5	24.00	3.00	3.0	30	125.0	190.0	2 200	3 200	1.150	T4CB100
	125	31.0	27.0	33.25	2.00	1.5	28	167.0	221.0	4 240	5 300	1.560	32214A		180	34.0	29.0	37.00	3.00	2.5	35	245.0	346.0	1 900	2 800	3.540	30220A
	125	41.0	32.0	41.00	2.00	1.5	31	208.6	298.3	2 900	3 900	2.100	33214		180	46.0	39.0	49.00	3.00	2.5	41	337.0	476.0	1 800	2 600	4.760	32220A
	150	35.0	30.0	38.00	3.00	2.5	29	220.0	282.0	2 400	3 400	2.900	30314A		180	63.0	48.0	63.00	3.00	2.5	45	430.0	655.0	1 700	2 400	6.710	33220A
	150	51.0	42.0	54.00	3.00	2.5	36	313.0	408.0	3 600	4 500	4.100	32314A		215	47.0	39.0	51.50	4.00	3.0	40	412.0	527.0	1 700	2 400	4.900	30320A
	150	35.0	25.0	38.00	3.00	2.5	47	187.0	231.0	2 000	3 000	2.850	31314A		215	73.0	60.0	77.50	4.00	3.0	51	553.0	847.0	1 600	2 200	12.100	32320A
75	105	20.0	16.0	20.00	1.00	1.0	19	78.2	124.7	3 500	4 600	0.490	32915X	105	160	35.0	26.0	35.00	2.50	2.0	34	210.0	346.0	3 040	3 800	2.440	32021X
	115	25.0	19.0	25.00	1.50	1.5	25	103.1	160.2	3 000	4 000	0.900	32015X		160	43.0	34.0	43.00	2.50	2.5	35	264.7	453.5	2 000	3 000	3.000	33021A
	115	31.0	25.5	31.00	1.50	1.5	23	133.1	221.2	3 000	4 000	1.120	33015A		190	36.0	30.0	39.00	3.00	2.5	37	268.0	383.0	1 800	2 600	4.250	30221A
	125	37.0	29.0	37.00	2.00	1.5	29	176.1	279.6	3 800	5 000	1.780	33115A		190	50.0	43.0	53.00	3.00	2.5	44	367.0	575.0	1 800	2 600	5.900	32221A
	130	25.0	22.0	27.25	2.00	1.5	27	135.0	182.0	2 800	3 800	1.330	30215A		225	49.0	41.0	53.50	4.00	3.0	41	440.0	535.0	1 600	2 200	9.150	30321A
	130	31.0	27.0	33.25	2.00	1.5	29	162.0	214.0	4 000	5 000	1.620	32215A		225	77.0	63.0	81.50	4.00	3.0	54	598.0	934.0	1 400	1 900	16.000	32321A
	160	37.0	31.0	40.00	3.00	2.5	31	242.0	318.0	2 200	3 200	3.400	30315A	110	170	38.0	29.0	38.00	2.50	2.0	37	245.7	403.4	1 900	2 800	3.020	32022X
	160	55.0	45.0	58.00	3.00	2.5	38	344.0	494.0	2 000	3 000	5.000	32315A		170	47.0	37.0	47.00	2.50	2.0	34	303.0	536.0	1 800	2 600	3.850	33022A
	160	37.0	26.0	40.00	3.00	2.5	50	194.0	250.0	2 000	3 000	3.500	31315A		180	56.0	43.0	56.00	2.50	2.0	44	373.0	639.0	1 800	2 600	5.550	33122A
	130	41.0	31.0	41.00	2.00	1.5	32	201.0	320.0	3 840	4 800	2.250	33215A		200	38.0	32.0	41.00	3.0								

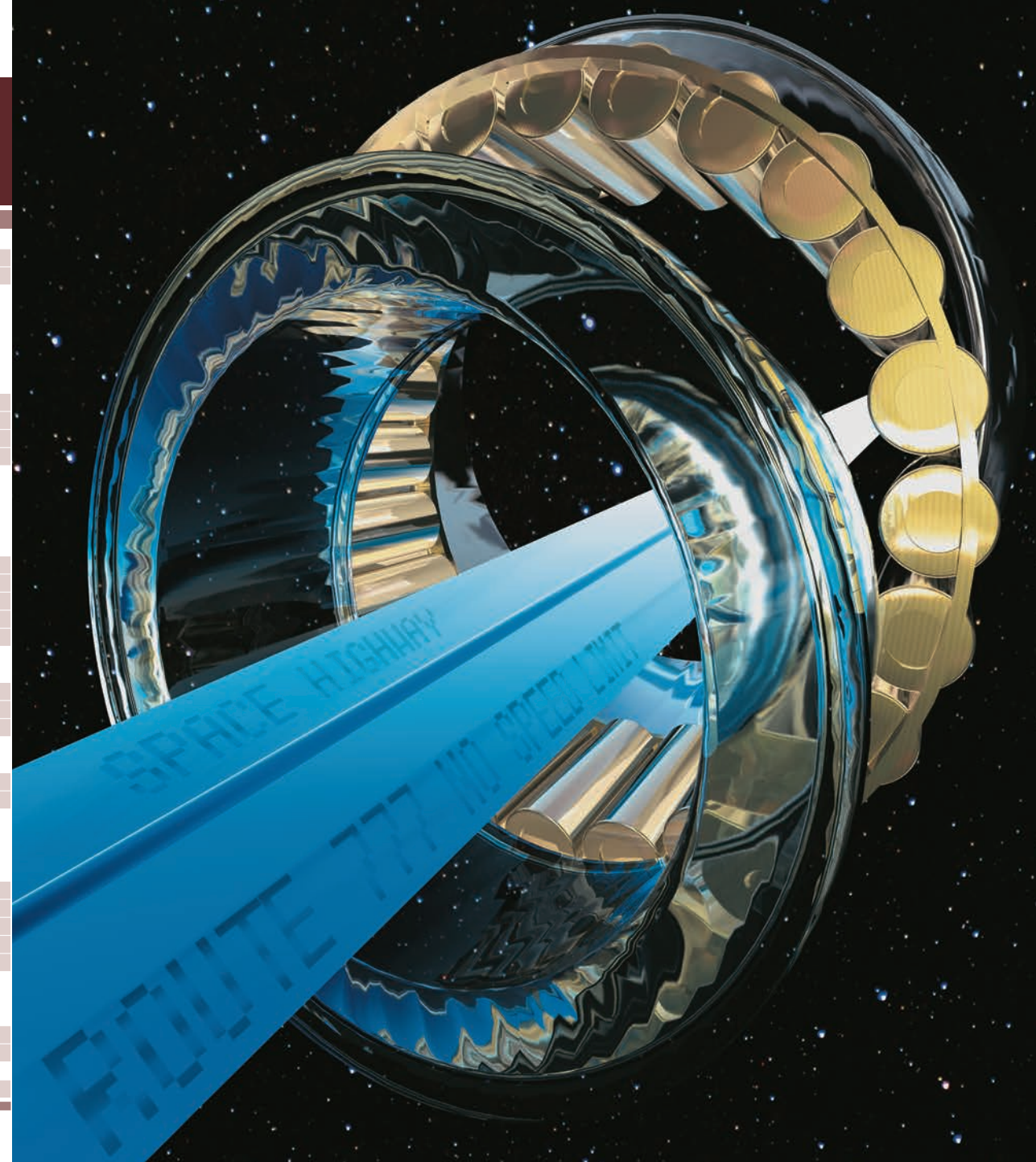


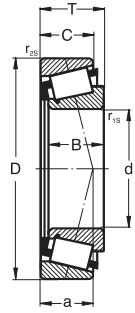
Single - row metric size | Jednorzędowe - metryczne

TAPERED ROLLER BEARINGS

SPECIAL AND INCH SIZES TAPERED ROLLER BEARINGS

DIMENSIONS								BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS	
WYMIARY GŁÓWNE								NOŚNOŚĆ		OBROT Y GRANICZNE		MASA	OZNACZENIE PODSTAWOWE	
d	D	B	C	T	r _{1s}	r _{2s}	a	dynamic	static	grease	oil	~		
mm								C	C ₀	w smarze	w oleju			r/min
								C	C ₀					
110	240	57.0	38.0	63.00	4.00	3.0	75	426.0	593.0	1 400	1 900	12.500	31322A	
	240	80.0	65.0	84.50	4.00	3.0	56	674.0	1 030.0	1 400	1 900	19.300	32322A	
120	180	38.0	29.0	38.00	2.50	2.0	40	242.0	404.0	1 800	2 600	3.180	32024X	
	180	48.0	38.0	48.00	3.00	2.0	36	298.2	535.1	2 600	3 400	4.070	33024A	
	215	40.0	34.0	43.50	3.00	2.5	43	334.0	491.0	1 600	2 200	6.010	30224A	
	215	58.0	50.0	61.50	3.00	2.5	51	440.0	727.0	1 600	2 200	8.750	32224A	
	260	55.0	46.0	59.50	4.00	3.0	47	537.0	705.0	1 500	2 000	13.800	30324A	
130	260	86.0	69.0	90.50	4.00	3.0	60	773.0	1 115.0	1 200	1 600	24.000	32324	
	185	27.0	21.0	29.00	3.00	3.0	35	152.0	235.0	1 600	2 200	1.970	T4CB130	
	200	45.0	34.0	45.00	2.50	2.0	42	314.0	540.0	1 600	2 200	4.950	32026A	
	230	40.0	34.0	43.75	4.00	3.0	45	369.0	490.0	1 500	2 000	7.600	30226A	
140	230	64.0	54.0	67.75	4.00	3.0	56	576.0	884.0	1 400	1 800	11.400	32226A	
	190	32.0	25.0	32.00	2.00	1.5	33	215.0	395.0	2 720	3 400	2.520	32928P6X	
	195	27.0	21.0	29.00	3.00	3.0	41	188.0	300.0	1 500	2 000	2.410	T4CB140	
	250	42.0	36.0	45.75	4.00	3.0	47	418.0	570.0	1 400	1 900	8.650	30228A	
	250	68.0	58.0	71.75	4.00	3.0	60	675.0	1 050.0	1 200	1 600	14.400	32228A	
150	300	102.0	85.0	107.75	5.00	4.0	71	1 220.0	1 650.0	1 300	1 700	34.700	32328FD	
	210	38.0	30.0	38.00	3.00	2.0	36	284.0	530.0	1 800	2 600	3.920	32930	
	225	48.0	36.0	48.00	3.00	2.0	50	390.0	695.0	1 500	2 000	6.310	32030X	
	270	45.0	38.0	49.00	4.00	3.0	50	429.0	560.0	1 300	1 800	11.000	30230A	
	270	73.0	60.0	77.00	4.00	3.0	64	756.0	1 180.0	1 100	1 500	18.200	32230A	
160	320	108.0	90.0	114.00	5.00	4.0	82	1 300.0	1 900.0	950	1 400	42.200	32330A	
	240	51.0	38.0	51.00	3.00	2.5	52	415.0	730.0	1 600	2 100	7.700	32032X	
	290	80.0	67.0	84.00	4.00	3.0	69	856.5	1 435.0	1 000	1 400	23.100	32232P6X	
	260	57.0	43.0	57.00	3.00	2.0	57	465.0	800.0	1 200	1 700	10.600	32034X	
	310	86.0	71.0	91.00	5.00	4.0	74	1 000.0	1 700.0	1 000	1 300	28.800	32234P6X	
170	230	30.0	23.0	32.00	1.50	2.0	42	221.0	395.0	1 400	1 900	4.170	32934	
	320	86.0	70.0	91.00	5.00	4.0	78	803.0	1 200.0	950	1 400	26.660	32236	
	240	30.0	23.0	32.00	3.50	3.6	48	265.0	483.0	2 080	2 600	3.600	T4DB180X1	
	290	64.0	48.0	64.00	3.00	2.5	63	653.0	1 180.0	1 100	1 600	14.800	32038P6X	
	340	92.0	75.0	97.00	5.00	4.0	83	1 120.0	1 780.0	900	1 300	35.400	32238A	
200	270	34.0	27.0	37.00	3.00	3.0	54	315.0	570.0	1 200	1 700	5.200	T4DB200	
	310	70.0	53.0	70.00	3.00	2.5	67	720.0	1 400.0	900	1 200	19.100	32040X	
	280	51.0	39.0	51.00	2.50	2.5	53	473.0	950.0	1 300	1 800	9.500	32940A	
	360	98.0	82.0	104.00	5.00	4.0	84	1 200.0	2 100.0	950	1 300	43.600	32240P6X	
	300	51.0	39.0	51.00	3.00	2.5	59	448.0	911.0	1 000	1 500	10.100	32944	
220	340	76.0	57.0	76.00	4.00	3.0	73	904.0	1 650.0	1 360	1 700	24.500	32044X	
	340	76.0	57.0	76.00	4.00	3.0	73	869.0	1 570.0	900	1 300	24.500	32044XP5	
	400	65.0	54.0	72.00	4.00	4.0	76	977.0	1 380.0	1 280	1 600	34.400	30244	
	400	108.0	90.0	114.00	4.00	4.0	97	1 530.0	2 660.0	1 200	1 500	58.700	32244	
	220	51.0	39.0	51.00	3.00	3.0	65	516.0	1 092.0	1 100	1 700	10.800	32948P6X	
240	320	56.0	46.0	57.00	3.00	2.0	58	616.0	1 320.0	900	1 300	12.500	T2EE240	
	360	76.0	57.0	76.00	4.00	3.0	79	989.0	1 800.0	850	1 200	25.900	32048X	
	260	400	87.0	65.0	87.00	5.00	4.0	86	1 120.0	2 070.0	800	1 100	38.700	32052X
280	540	102.0	80.0	112.00	6.00	6.0	98	1 960.0	2 660.0	960	1 200	110.960	30352FD	
	320	380	63.5	48.0	63.50	3.00	2.5	672.0	1 370.0	800	1 100	19.900	32956	
320	480	100.0	74.0	100.00	5.00	4.0	104	1 500.0	3 150.0	630	850	61.900	32064X	

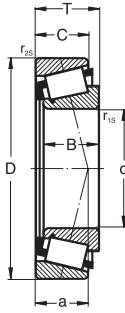




Special and inch size | Specjalne i calowe



SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTOWY GRANICZNE		MASS MASA	DESIGNATION OZNACZENIE PODSTAWOWE		LOAD CALCULATION FACTORS Współczynniki obliczeniowe		
	d	D	T	B	C	r _{1s}	r _{2s}	a	dynamic	static	grease	oil		FLT	Equivalent zamiennik	e	y ₁	y ₀
	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	r/min	r/min						
15.000	15.0000	35.0000	11.0000	10.7500	8.5000	0.7000	1.2500	8.6	15.3	13.8	19 200	24 000	0.050	CBK 170B	639209 (SKF)	0.45	1.33	0.73
15.000	15.0000	42.0000	13.0000	13.5000	10.0000	1.0000	1.0000	9.2	21.4	22.0	16 000	20 000	0.100	CBK 257	336658 (SKF) 639213 (SKF)	0.40	1.51	0.83
17.462	17.4620	39.8780	13.4830	14.6050	10.6680	1.3000	1.3000	9.0	20.7	20.2	9 000	13 000	0.081	LM 11749/LM11710	K-LM 11749/K-LM 11710	0.28	2.10	1.10
19.050	19.0500	45.2370	15.4940	16.6370	12.0650	1.3000	1.3000	10.2	29.5	30.2	14 000	18 000	0.130	CBK 087	K-LM 11949/K-LM 11910	0.30	2.00	1.10
20.000	20.0000	43.0000	13.2500	12.0000	11.0000	3.0000	1.5000	10.2	20.6	21.7	14 000	18 000	0.100	CBK 173	639329 (SKF)	0.38	1.60	0.88
21.430	21.4300	50.0050	17.5260	18.2880	13.9700	1.3000	1.3000	11.0	35.0	36.5	8 000	11 000	0.170	M 12649/M 12610	K-M 12649/K-M 12610	0.28	2.10	1.10
21.987	21.9870	45.2370	15.4940	16.6370	12.0650	1.3000	1.3000	10.0	27.0	30.0	8 000	11 000	0.120	LM 12749/LM 12710	K-LM 12749/KL-M 12710	0.31	1.90	1.10
22.000	22.0000	41.0000	14.4000	14.6000	11.4000	1.0000	1.0000	9.4	18.4	21.2	14 000	18 000	0.080	CBK 323B	442327N (SKF)	0.26	2.27	1.25
23.000	23.0000	52.0000	15.0000	14.2600	12.7000	3.0000	1.5000	11.5	27.2	29.3	11 000	14 000	0.160	CBK 258	639175 (SKF)	0.40	1.51	0.83
25.400	25.4000	50.2920	14.2240	14.7320	10.6680	1.3000	1.3000	11.0	25.5	29.0	7 500	10 000	0.130	513-720	K-L44643/K-L 44610	0.37	1.60	0.90
25.400	25.4000	57.1500	19.4310	19.4310	14.7320	1.5000	1.5000	16.0	42.0	48.5	6 900	9 200	0.240	M 84548/M84510	M 84548/M84510	0.55	1.10	0.60
25.400	25.4000	59.5300	23.3680	23.1140	18.2880	0.8000	1.5000	11.0	50.0	58.0	6 300	9 000	0.320	CBK 247	K-M 84249 / K-M 84210	0.55	1.10	0.60
26.000	26.0000	52.0000	15.0000	14.2600	12.7000	2.8000	1.5000	11.5	27.2	29.3	11 000	14 000	0.140	CBK 171	63174 (SKF)	0.40	1.51	0.83
26.988	26.9880	50.2920	14.2240	14.7320	10.6680	3.5000	1.3000	11.0	25.5	29.0	7 500	10 000	0.110	L 44649/L 44610	K-L 44649/K-L 44610	0.37	1.60	0.90
29.000	29.0000	50.2920	14.2240	14.7320	10.6680	3.5000	1.3000	11.0	25.4	31.8	7 000	9 500	0.110	L 45449/L 45410	L-45449/L45410 331274 (SKF)	0.37	1.60	0.90
30.162	30.1620	64.2920	21.4330	21.4330	16.6700	1.5000	1.5000	18.0	49.0	60.0	6 300	8 000	0.350	CBK 248	K-M86649/K-M 86610	0.55	1.10	0.50
31.750	31.7500	59.1310	15.8750	16.7640	11.8110	3.5000	1.3000	13.3	36.6	40.4	8 800	11 000	0.180	CBK 088	K-LM 67048/L-LM 67010	0.41	1.46	0.80
31.750	31.7500	62.0000	18.1610	19.0500	14.2880	4.0000	1.3000	13.0	48.5	57.0	6 000	8 000	0.240	15123/15245	K-15123/K-15245	0.35	1.70	0.90
31.750	31.7500	69.0120	19.8450	19.5830	15.8750	3.5000	1.3000	15.0	53.9	67.0	5 600	7 500	0.350	14125A/14276	K-14125A/K-14276	0.37	1.60	0.80
31.750	31.7500	69.8500	23.8120	25.3570	19.0500	0.8000	1.3000	17.0	70.1	83.2	5 600	7 500	0.440	2580/2523	2580/2523	0.27	2.19	1.21
31.750	31.7500	73.0250	29.3700	27.7830	23.0200	1.3000	3.3000	23.0	70.4	95.0	5 600	7 500	0.620	HM88542/HM88510		0.54	1.10	0.60
33.338	33.3380	76.2000	29.3700	28.5750	23.0200	0.8000	2.0000	23.0	79.0	107.0	9 600	12 000	0.680	CBK 093	K-HM 89443/K-HM 89410	0.55	1.10	0.60
34.925	34.9250	65.0880	18.0340	18.2880	13.9700	3.6000	1.3000	14.4	48.0	58.5	8 800	11 000	0.300	CBK 333	K-LM 48548/K-LM 48510	0.38	1.59	0.88
34.925	34.9250	69.0120	19.9450	19.5830	15.8750	1.5000	1.3000	15.1	57.9	66.7	8 800	11 000	0.360	CBK 348	K-14137A/K-14276	0.38	1.57	0.87
34.925	34.9250	72.2340	25.4000	25.4000	19.8420	2.5000	2.5000	21.0	66.0	87.0	5 300	7 000	0.450	HM 88649/88610	HM 88649/88610	0.55	1.10	0.60
34.925	34.9250	73.0250	23.8120	24.6090	19.0500	1.5000	2.3000	16.0	71.2	83.0	7 000	8 800	0.490	CBK 350	K-25877/K-25820	0.29	2.06	1.13

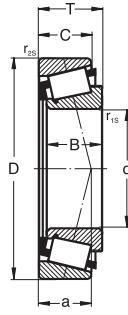


Special and inch size | Specjalne i calowe

SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	DESIGNATION OZNACZENIE PODSTAWOWE		LOAD CALCULATION FACTORS Współczynniki obliczeniowe		
	d	D	T	B	C	r _{1s}	r _{2s}	a	dynamic	static	grease	oil		~	FŁT	Equivalent	e	y ₁
mm	mm								kN		r/min		kg					
34.925	34.9250	76.2000	29.3700	28.5750	23.0200	3.5000	3.3000	23.0	79.0	107.0	7 000	8 800	0.680	CBK 094	K-HM 89446/K-HM 89410	0.55	1.10	0.60
	1.3750	3.0000	1.1563	1.2500	0.9063	0.1400	0.1300											
34.988	34.9880	59.9740	15.8750	16.7640	11.9380	3.5000	1.3000	13.0	33.0	44.0	6 000	8 000	0.172	513-719	K-L-68149/K-L 68111	0.43	1.40	0.80
	1.3775	2.3612	0.6250	0.6600	0.4700	0.1400	0.0500											
35.000	35.0000	60.0000	15.8750	18.4600	11.9380	2.0000	1.3000	13.0	33.0	44.0	5 000	6 700	0.170	JL 68145/JL 68111 Z	K-JL 68145/K-JL 68111	0.43	1.40	0.80
35.000	35.0000	80.0000	32.0000	32.0000	25.0000	1.5000	0.3000	20.8	98.0	134.0	6 400	8 000	0.810	514-747		0.36	1.68	0.92
36.000	36.0000	68.0000	16.5000	16.5000	13.7500	1.5000	1.5000	14.6	36.4	40.6	7 500	9 600	0.280	CBK 091	639180 (SKF)	0.44	1.36	0.75
36.512	36.5120	76.2000	29.3700	28.5750	23.0200	3.5000	3.3000	23.5	78.0	105.0	5 100	6 800	0.626	HM89449/HM89410	HM89449/HM89410	0.55	1.10	0.60
	1.4375	3.0000	1.1563	1.1250	0.9063	0.1400	0.1300											
38.000	38.0000	63.0000	17.0000	17.0000	13.5000	1.3000	1.3000	15.0	40.5	56.5	5 300	7 000	0.200	JL 69349/JL 69310	JL 69349/JL 69310	0.42	1.40	0.80
38.000	38.0000	63.0000	17.1000	17.0000	13.5000	2.0000	1.5000	14.5	44.0	59.0	9 600	12 000	0.200	513-716A	K-JL 69349A/K-JL69399	0.42	1.44	0.79
38.100	38.1000	65.0880	18.0340	18.2880	13.9700	2.3000	1.3000	13.0	42.9	57.0	5 600	7 500	0.240	LM 29749/LM 29710	LM 29749/LM 29710	0.33	1.80	1.00
	1.5000	2.5625	0.7100	0.7200	0.5500	0.0900	0.0500											
	38.1000	79.3750	29.3700	29.7710	23.8120	4.0000	4.0000	20.6	90.5	120.0	7 400	9 300	0.690	514-809	3490/3420	0.37	1.60	0.88
	38.1000	82.5500	29.3700	28.5750	23.0200	0.8000	3.3000	24.0	100.0	118.0	7 400	9 300	0.780	HM801346/HM801310		0.54	1.10	0.60
39.000	39.0000	72.0150	21.5000	20.6400	16.7400	2.0000	0.5000	17.6	56.0	68.8	7 000	8 800	0.370	CBK 187	639330 (SKF)	0.40	1.49	0.82
40.000	40.0000	70.0000	17.0000	16.5000	14.2500	1.8000	1.3000	15.0	38.8	48.7	4 800	6 300	0.310	CBK 172	639163 (SKF)	0.44	1.35	0.74
41.275	41.2750	72.1100	19.5580	19.8120	14.7320	2.2000	1.5000	16.2	55.2	68.6	7 000	8 800	0.320	514-873		0.40	1.50	0.83
	1.6250	2.8390	0.7700	0.7800	0.5800	0.0866	0.0591											
41.275	41.2750	73.4310	19.5580	19.8120	14.7320	3.5000	1.3000	16.0	55.5	69.5	4 800	6 300	0.330	LM 501349/LM 501310	K-LM 501349/K-LM 501310	0.40	1.50	0.80
	1.6250	2.8910	0.7700	0.7800	0.5800	0.1400	0.0500											
41.275	41.2750	82.5500	26.5430	25.6540	20.1930	3.5000	3.3000	23.2	73.0	92.5	6 700	8 700	0.580	CBK 387	K-M 802048/K-M 802011	0.55	1.10	0.60
	1.6250	3.2500	1.0450	1.0900	0.7900	0.1400	0.1300											
41.275	41.2750	104.7750	36.5120	36.5120	28.5750	1.6000	3.3000	29.0	142.0	198.0	2 400	3 400	1.690	HM 807035/807010	HM 807035/807010			
44.450	44.4500	82.9310	23.8130	25.4000	19.0500	3.5000	0.8000	17.0	81.5	107.0	4 500	6 000	0.570	25580/25520	K-25580/K-25520	0.33	1.80	1.00
	1.7500	3.2650	0.9375	1.0000	0.7500	0.7400	0.0300											
44.450	44.4500	87.3120	30.1620	30.8860	23.8120	3.5000	3.3000	20.1	94.0	117.0	4 400	5 900	0.779	3578/3525	3578/3525	0.31	1.96	1.08
	1.7500	3.4375	1.1875	1.2160	0.9375	0.1400	0.1300											
44.450	44.4500	88.9000	30.1620	29.3700	23.0200	3.5000	3.4000	26.0	101.0	127.0	4 000	5 300	0.850	HM 803149/HM 803110	HM 803149/HM 803110	0.55	1.10	0.60
44.450	44.4500	95.2500	27.7830	28.5750	22.2250	0.8000	0.8000	20.2	105.0	134.0	5 600	7 000	1.010	CBK 327	K-33885/K-33822	0.33	1.82	1.00
	1.7500	3.7500	1.0938	1.1250	0.8750	0.0300	0.0300											
44.450	44.4500	95.2500	30.9580	28.5750	22.2250	3.6000	0.8000	31.0	102.0	120.0	5 600	7 000	1.130	CBK 334	K-HM 903249/K-HM 903210	0.74	0.81	0.45
	1.7500	3.7500	1.2188	1.1250	0.8750	0.1400	0.0300											
44.450	44.4500	104.7750	36.5120	36.5120	28.5750	3.5000	3.4000	29.0	159.0	223.0	3 600	4 800	1.590	HM 807040/HM 807010	HM 807040/HM 807010	0.49	1.23	0.68
	1.7500	4.1250	1.4375	1.4375	1.1250	0.1400	0.1300											
45.618	45.6180	82.9310	23.8120	25.4000	19.0500	3.6000	0.8000	17.6	81.4	96.0	6 800	8 500	0.570	CBK 349	K-25590/K-25520	0.34	1.79	0.98
	1.7900	3.2650	0.9375	1.0000	0.7500	0.1400	0.0300											
45.987	45.9870	74.9760	18.0000	18.0000	14.0000	1.5000	1.5000	16.0	51.5	70.5	7 000	8 800	0.280	CBK 331A	K-LM 503349/K-LM 503310	0.40	1.49	0.82
	1.8105	2.9518	0.7087	0.7087	0.5512	0.0600	0.0600											
	45.9870	90.9750	32.0000	32.0000	26.5000	3.5000	3.5000	22.0	133.0	172.0	5 000	6 500	0.920	HM204049/10	HM204049/10	0.33	1.80	0.92
	1.8105	3.5817	1.2598	1.2598	1.0433	0.1400	0.1400											
47.625	47.6250	96.8380	21.0000	21.9460	15.8750	0.8000	0.8000	17.5	74.5	76.0	6 000	7 500	0.630	CBK 351	K-386A/K-382A	0.35	1.73	0.95
	1.8750	3.8125	0.8268	0.8640	0.6250	0.0300	0.0300											
49.213	49.2130	103.1880	43.6580	44.4750	36.5120	3.5000	3.3000	27.0	179.0	241.0	3 800	5 000	1.730	5395/5335	5395/5335	0.30	2.02	1.11

FŁT Tapered Roller Bearings

łożyska stożkowe

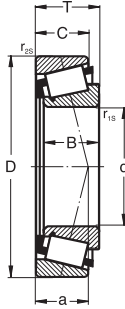


Special and inch size | Specjalne i calowe

SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	DESIGNATION OZNACZENIE PODSTAWOWE		LOAD CALCULATION FACTORS Współczynniki obliczeniowe		
	d	D	T	B	C	r _{1s}	r _{2s}	a	dynamic DYNAMICZNE C	static STATYCZNE C ₀	grease w smarze	oil w oleju		~	FŁT	Equivalent zamiennik	e	y ₁
mm	mm								kN		r/min		kg					
50.000	50.0000	84.0000	22.0000	22.0000	17.5000	3.5000	1.5000	19.7	69.5	94.5	4 300	5 700	0.466	JLM704649/JLM704610	JLM704649/JLM704610	0.44	1.37	0.75
	1.9685	3.3071	0.8661	0.8661	0.6693	0.1400	0.0600											
50.000	50.0000	110.0000	22.0000	21.9960	18.8250	1.5000	1.0000	21.2	91.6	125.0	3 200	4 300	1.050	396A/394A	396A/394A	0.40	1.49	0.80
	1.9685	4.3307	0.8661	0.8600	0.7411	0.0600												
50.800	50.8000	93.2640	30.1620	30.3020	23.8120	3.5000	3.3000	22.0	99.6	138.5	4 000	5 300	0.840	3780/3720	3780/3720	0.34	1.77	0.97
	2.0000	3.6718	1.1875	1.1930	0.9375	0.1378	0.1299											
50.800	50.8000	95.2500	27.7830	28.5750	22.2250	3.5000	0.8000	20.2	105.0	134.0	5 900	7 400	0.900	CBK 322	K-33889/K33822	0.33	1.82	1.00
	2.0000	3.7500	1.0938	1.1250	0.8750	0.1400	0.0300											
50.800	50.8000	100.0000	35.0000	35.0000	27.0000	2.0000	2.0000	25.2	136.0	178.0	5 900	7 400	1.010	CBK 393	331305 (SKF)	0.40	1.50	0.83
50.800	50.8000	104.7750	30.1620	30.9580	23.8120	2.3000	3.3000	23.0	130.0	169.0	3 500	4 700	1.230	45285/45520	45285/45520	0.33	1.80	0.99
	2.0000	4.1250	1.1875	1.2188	0.9375	0.0900	0.1300											
50.800	50.8000	104.7750	36.5120	36.5120	28.5750	3.5000	3.3000	28.6	136.0	202.0	5 000	6 300	1.590	CBK 347	K-HM 807046/K-HM 807010	0.47	1.27	0.70
	2.0000	4.1250	1.4375	1.4375	1.1250	0.1400	0.1300											
57.000	57.0000	85.0000	18.5000	19.0000	14.0000	1.5000	1.5000	20.0	53.0	52.0	3 400	4 500	0.330	CBK 494	639352 (SKF)	0.32	1.80	1.00
57.150	57.1500	104.7750	27.7830	29.3170	24.6050	2.4000	3.3000	23.7	126.0	167.0	4 800	6 000	1.050	CBK 335		0.32	1.88	1.04
	2.2500	4.1250	1.0938	1.1543	0.9688	0.1000	0.1300											
57.150	57.1500	104.7750	30.1620	29.3170	24.6050	2.3000	3.3000	-7.1	117.3	151.9	3 200	4 300	1.230	462/453	462/453	0.34	1.79	0.98
	57.1500	112.7120	30.1620	30.1620	23.8120	3.5000	3.3000	24.4	136.0	172.0	4 800	6 000	1.330	514-765	K-39581/K-39520	0.40	1.48	0.81
	2.2500	4.4375	1.1875	11.8750	0.9375	0.4000	0.1300											
60.000	60.0000	127.0000	36.5130	36.5130	26.9880	3.5000	1.5000	33.0	165.0	228.0	4 500	5 600	2.170	CBK 261	K-HM 813839/K-HM 813810	0.52	1.15	0.63
60.000	60.0000	135.0000	33.5500	30.9500	22.0000	3.0000	2.5000	41.0	143.0	176.0	2 600	3 600	2.500	400371	400371 (CBF)	0.83	0.73	0.40
62.000	62.0000	147.0000	50.1000	46.9250	32.9250	2.0000	3.0000	50.1	252.0	326.0	3 600	4 500	4.040	515-1147		0.82	0.73	0.40
63.500	63.5000	95.0000	17.0000	15.5000	11.5500	2.0000	2.0000	28.5	37.4	54.7	5 000	6 300	0.350	CBK 200	431629 (SKF)	0.78	1.77	0.42
65.000	65.0000	95.0000	17.0000	16.0000	13.0000	1.0000	1.0000	21.1	42.0	64.5	5 000	6 300	0.370	514-683		0.49	1.23	0.68
65.000	65.0000	105.0000	24.0000	23.0000	28.5000	3.0000	1.0000	24.0	94.0	128.0	3 300	4 500	0.810	JLM 710949/JLM 710910	JLM 710949/JLM 710910	0.45	1.32	0.73
	65.0000	120.0000	39.0000	38.5000	32.0000	1.5000	1.5000	28.4	197.0	261.0	4 400	5 500	2.060	CBK-278A		0.34	1.78	0.98
	65.0000	110.0000	28.0000	28.0000	22.5000	3.0000	2.8000	24.5	136.0	191.0	3 400	4 600	1.071	JM511946/JM511910	JM511946/JM511910	0.40	1.49	0.82
	2.5591	4.3307	1.1024	1.1024	0.8858													
66.675	66.6750	110.0000	22.0000	21.9960	18.8240	0.8000	1.3000	18.6	91.5	114.0	4 800	6 000	0.840	CBK 336	K-395A/K-394A	0.40	1.49	0.82
	2.6250	4.3307	0.8661	0.8660	0.7411	0.0300	0.0500											
66.675	66.6750	110.0000	22.0000	21.9960	22.0000	0.8000	1.3000	21.0	88.2	117.9	3 200	4 300	0.840	395A/394A	395A/394A	0.40	1.49	0.82
	2.6250	4.3307	0.8661	0.8660	0.8661	0.0315	0.0512											
66.675	66.6750	110.0000	30.1620	30.0480	23.8120	3.5000	3.3000	25.5	129.0	191.0	3 200	4 300	1.060	3984/3927X	3984/3927X	0.40	1.49	0.82
	2.6250	4.3307	1.1875	1.1830	0.9375	0.1400	0.1300											
66.675	66.6750	112.7120	30.1620	30.0480	23.8120	3.5000	3.3000	25.9	132.0	183.0	4 800	6 000	1.840	CBK 337	K-3984/K-3920	0.41	1.46	0.81
70.000	70.0000	136.5250	46.0380	46.0380	36.5130	2.2000	2.2000	37.5	230.0	356.0	3 800	4 800	3.340	CBK 262	K-H 715347/K-H 715311	0.48	1.24	0.68
	2.7559	5.3750	1.8125	1.8125	1.4375	0.0900	0.0900											
72.000	72.0000	99.2400	17.0000	16.0000	13.0000	1.0000	1.0000	18.9	51.0	82.5	5 000	6 200	0.360	514-685		0.37	1.62	0.89
73.025	73.0250	112.7120	25.4000	25.4000	19.0500	3.5000	3.3000	26.0	97.4	155.2	3 000	4 000	0.880	29685/29620	29685/29620	0.49	1.23	0.68
	2.8750	4.4375	1.0000	1.0000	0.7500	0.1378	0.7299											
73.025	73.0250	112.7120	25.4000	25.4000	19.0500	3.6000	3.3000	25.9	96.0	149.0	4 600	5 800	0.760	CBK 344	K-29685/K-29620	0.49	1.23	0.68
	2.8750	4.4375	1.0000	1.0000	0.7500	0.1400	0.7300											
73.025	73.0250	117.4750	30.1620	30.1620	23.8120	3.5000	3.3000	26.0	119.8	181.1	3 000	4 000	1.170	33287/33462	33287/33462	0.44	1.38	0.76
	2.8750	4.6250	1.1875	1.1875	0.9375	0.7378	0.7299											
75.000	75.0000	115.0000	25.0000	25.0000	19.0000	3.0000	2.5000	25.0	102.8	153.1	2 600	3 600	0.870	JLM714149/JLM714110	JLM714149/JLM714110	0.46	1.31	0.72

F&T Tapered Roller Bearings

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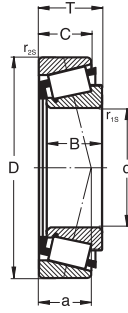


Special and inch size | Specjalne i calowe

SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	DESIGNATION OZNACZENIE PODSTAWOWE		LOAD CALCULATION FACTORS Współczynniki obliczeniowe			
	d	D	T	B	C	r _{1s}	r _{2s}	a	dynamic	static	grease	oil		FL&T	Equivalent	e	y ₁	y ₀	
	mm					min	min	~	DYNAMICZNE C	STATYCZNE C ₀	w smarze	w oleju			zamiennik				
	mm								kN		r/min		kg						
75.000	75.0000	120.0000	31.0000	29.5000	25.0000	3.0000	2.5000	29.0	131.0	197.0	2 900	3 900	1.290	JM714249/JM714210	JM714249/JM714210	0.44	1.35	0.74	
	2.9528	4.7244	1.2205	1.1614	0.9843	0.1200	0.1000												
76.200	76.2000	136.5250	30.1630	29.7690	22.2250	3.6000	3.2000	29.0	145.0	220.0	2 400	3 400	1.850	CBK 528	K-495A/K-493	0.44	1.35	0.80	
	3.0000	5.3750	1.1875	1.1720	0.8750	0.7400	0.7300												
76.200	76.2000	139.9920	36.5120	36.0980	28.5750	2.5000	2.0000	30.7	208.0	281.0	3 600	4 500	2.390	515-764	575S/572	0.42	1.43	0.79	
	3.0000	5.5115	7.4375	1.4212	1.1250	0.0984	0.0787												
77.788	77.7880	121.4420	24.6100	23.0220	17.4620	3.5000	2.0000	23.0	94.6	136.0	3 600	4 500	0.910		34306/34478	0.45	1.33	0.73	
	3.0625	4.7812	0.9688	0.9060	0.6875	0.1400	0.0800												
78.000	78.0000	106.0000	17.0000	17.7500	13.1250	2.0000	1.0000	18.7	58.5	97.5	4 800	6 000	0.430	514-874		0.37	1.60	0.88	
80.000	80.0000	130.0000	35.0000	34.0000	28.5000	3.0000	2.5000	30.0	181.0	286.0	2 200	3 200	1.770	515-1210	JM515649/JM515610	0.39	1.55	0.85	
82.000	82.0000	140.0000	36.5120	36.0980	28.5750	10.0000	3.5000	31.0	171.0	252.0	2 200	3 200		515-813		0.40	1.49	0.82	
82.550	82.5500	125.4120	25.4000	25.4000	19.8450	3.6000	1.6000	25.7	113.0	159.0	4 000	6 000	1.120	CBK 338	K-27687/K-27620	0.40	1.49	0.82	
	3.2500	4.9375	1.0000	1.0000	0.7813	0.7400	0.0600												
82.550	82.5500	133.3500	33.3380	33.3380	26.1950	3.5000	3.3000	29.0	142.4	219.3	2 400	3 400	1.690	47686/47620	47686/47620	0.40	1.48	0.82	
	3.2500	5.2500	1.3125	1.3125	1.0373	0.7378	0.7299												
88.900	88.9000	152.4000	39.6880	39.6880	30.1620	6.4000	3.3000	33.9	234.0	325.0	3 400	4 200	2.770	515-745	K-593A/K-592 HM518445/410	0.40	1.49	0.82	
	3.5000	6.0000	1.5625	1.4300	1.1875	0.2500	0.7300												
90.000	90.0000	147.0000	40.0000	40.0000	32.5000	7.0000	3.5000	30.5	226.0	349.0	3 600	4 000	2.400	HM218248/HM218210	K-HM218248/K-HM218210	0.33	1.80	0.99	
90.000	90.0000	145.0000	35.0000	34.0000	27.0000	6.0000	2.5000	33.4	207.0	320.0	2 200	3 200	2.110	515-1211	JM 718149/JM 718110	0.44	1.35	0.74	
90.000	90.0000	147.0000	40.0000	40.0000	32.5000	5.8000	3.5000	30.0	226.0	349.0	2 200	3 200	2.480	515-1005	JP10049/JP10010	0.33	1.80	0.99	
95.000	95.0000	135.0000	20.0000	20.0000	14.0000	5.0000	2.5000	30.9	76.5	133.0	3 600	4 500	0.850	515-838	JL819349/JL819310	0.58	1.03	0.57	
95.250	95.2500	136.5250	122.2350			0.3000	1.0000		318.0	753.0	1 800	2 600	4.707	CBK-184					
96.838	96.8380	148.4300	28.5750	28.9710	21.4330	3.5000	3.5000	31.0	130.0	196.0	2 200	3 200	1.650	CBK-529	K-42381/K-42584	0.49	1.20	0.70	
	3.8725	5.8937	1.1250	1.1406	0.8438	0.7400	0.7400												
99.974	99.9740	156.9750	42.0000	42.0000	34.0000	8.0000	3.5000	32.0	257.0	420.0	2 000	3 000	2.820	HM220149/HM220110	HM220149/HM220110	0.33	1.80	0.99	
100.000	100.0000	160.0000	41.0000	40.0000	32.0000	2.0000	2.0000	38.4	251.0	396.0	3 200	4 000	3.110	CBK 263	K-JHM 720249/K-JHM 720210	0.46	1.31	0.72	
100.000	100.0000	145.0000	24.0000	22.5000	17.5000	3.0000	3.0000	30.0	113.0	165.0	2 000	3 000	1.130	JP10049/JP10010	JP10049/JP10010	0.47	1.27	0.70	
107.950	107.9500	158.7500	23.0200	21.4380	15.8750	3.5000	3.3000	37.0	107.0	164.0	3 200	4 000	1.430	CBK 339	K-37425/K-37625	0.62	0.98	0.54	
	4.2500	6.2500	0.9063	0.8440	0.6250	0.7400	0.7300												
109.539	109.5390	158.7500	23.0200	21.4380	15.8750	3.5000	3.3000	37.0	107.0	164.0	3 200	4 000	1.280	515-761	37431 A/37625	0.62	0.98	0.54	
	4.3125	6.2500	0.9063	0.8440	0.6250	0.7400	0.7300												
110.000	110.0000	180.0000	41.2750	41.2750	30.1630	3.5000	3.3000	42.0	264.0	432.0	2 900	3 600	3.760	CBK 264	K-64432/K-64708	0.50	1.20	0.66	
110.000	110.0000	165.0000	35.0000	35.0000	26.5000	5.0000	2.5000	32.0	200.0	352.0	1 800	2 600	2.450	JM822049/JM822010	JM822049/JM822010	0.50	1.20	0.66	
114.300	114.3000	177.8000	41.2750	41.2750	30.1620	3.5000	3.3000	42.4	232.0	375.0	1 800	2 600	3.500		64450/64700	0.52	1.20	0.64	
	4.5000	7.0000	1.6250	1.6250	1.1875	0.1400	0.1300												
120.000	120.0000	170.0000	27.0000	25.0000	19.5000	3.0000	3.0000	35.0	178.0	283.0	1 800	2 600	1.700	JP12049/JP 12010	JP12049/JP 12010	0.47	1.27	0.70	
130.000	130.0000	185.0000	29.0000	27.0000	21.0000	3.0000	3.0000	8.9	181.5	290.0	1 800	2 600	2.160	JP13049/JP13010	JP13049/JP13010	0.47	1.27	0.70	
133.350	133.3500	177.0080	25.4000	26.1950	20.6380	1.5000	1.5000	29.2	139.0	288.0	1 900	2 400	1.720	515-1106	L327249/L327210	0.35	1.72	0.95	
140.000	140.0000	195.0000	29.0000	27.0000	21.0000	3.0000	3.0000	11.9	206.1	344.0	1 700	2 300	2.310	JP14049A/JP14010	JP14049A/JP14010	0.50	1.19	0.66	
142.875	142.8750	200.0250	41.2750	39.6880	34.1300	8.0000	3.3000	38.0	277.0	535.0	1 600	2 100	3.740	48684/48620	48684/48620	0.34	1.78	1.00	
146.050	146.0500	193.6750	28.5750	28.5750	23.0200	1.5000	1.5000	33.5	176.0	374.0	2 500	3 100	2.300	515-822	36690/36620	0.37	1.62	0.89	
152.400	152.4000	192.0880	25.0000	24.0000	19.0000	2.0000	2.0000	35.0	130.0	261.0	1 600	2 100	1.530	L630349/L630310	L630349/L630310	0.42	1.44	0.79	
	6.0000	7.5625	0.9843	0.9449	0.7480	0.0800	0.0800												
158.750	158.7500	205.5830	23.8120	23.8120	18.2580	1.5000	1.5000	33.0	160.0	274.0	2 400	3 000	1.930	516-819	L-432349/L-432310	0.37	1.60	0.88	
177.800	177.8000	215.9000	20.6380	20.6380	15.0830	1.5000	1.5000	3.0	125.8	232.2	1 800	2 500	1.440	LL735449/10		0.45	1.33	0.73	

FŁT Tapered Roller Bearings

łożyska stożkowe



Special and inch size | Specjalne i calowe

SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	DESIGNATION OZNACZENIE PODSTAWOWE		LOAD CALCULATION FACTORS Współczynniki obliczeniowe			
	d	D	T	B	C	r _{1s}	r _{2s}	a	dynamic DYNAMICZNE C	static STATYCZNE C ₀	grease w smarze	oil w oleju		~	FŁT	Equivalent zamiennik	e	y ₁	y ₀
	mm	mm	mm	mm	mm	min	min	~	kN	kN	r/min	r/min		kg					
196.850	196.8500	241.3000	23.8120	23.0170	17.4620	1.5000	1.5000	17.5	154.8	321.6	1 000	1 500	2.120	LL639249/LL639210	LL639249/LL639210	0.42	1.44	0.79	
	196.8500	254.0000	28.5750	27.7830	21.4330	1.5000	1.5000	14.2	180.5	365.9	1 000	1 500	3.370	L540049/L540010	L540049/L540010	0.40	1.51	0.83	
215.900	215.9000	290.0100	31.7500	31.7500	22.2250	3.5000	3.3000	13.0	284.0	493.0	1 000	1 500	5.530	543085/543114	543085/543114	0.39	1.50	0.80	
231.775	231.7750	317.5000	47.6250	52.3880	36.5120	3.2000	3.2000	49.9	500.0	980.0	1 300	2 000	10.500	LM245848/LM245810	LM245848/LM245810	0.31	1.90	1.10	
247.650	247.6500	346.0750	63.5000	63.5000	50.8000	6.4000	6.4000	62.2	682.0	1 390.0	850	1 200	17.400	M348499/M348410	M348499/M348410	0.34	1.75	0.97	
254.000	254.0000	315.9130	31.7500	31.7500	22.2250	3.6000	3.3000	10.0	245.0	554.0	1 000	1 600	5.070	LL648449/15X1		0.44	1.35	0.70	
275.000	275.0000	352.4250	36.5130	40.0000	23.8130	3.5000	3.3000	34.0	260.0	565.0	1 100	1 700	25.000	L853048/10X1		0.54	1.11	0.61	
288.925	288.9250	406.4000	77.7880	77.7880	60.3250	6.4000	3.3000	82.0	856.0	1 840.0	1 100	1 600	30.200	M255449/10		0.34	1.77	0.98	
292.100	292.1000	374.6500	47.6250	47.6250	34.9250	3.5000	3.5000	30.0	463.0	1 041.0	1 100	1 600	11.800	L555249/10X1		40.00	1.50	0.83	
304.800	304.8000	393.7000	50.8000	50.8000	38.1000	6.4000	3.0000	61.5	590.0	1 320.0	1 000	1 500	14.500	517-1208	L357049/L357010	0.36	1.67	0.92	
330.200	330.2000	415.9250	47.6250	47.6250	34.9250	3.5000	3.3000	12.0	468.0	1 132.0	800	1 100	14.100	L860049/10X1		0.50	1.19	0.65	
355.600	355.6000	444.5000	60.3250	60.3250	47.6250	3.5000	3.3000	67.9	660.0	1 660.0	630	850	20.600		L163149/L163110	0.31	2.00	1.10	
381.000	381.0000	479.4250	49.2130	47.6000	34.9000	6.4000	3.3000	91.9	595.0	1 450.0	600	800	18.200	518-1206		0.50	1.21	0.67	
381.050	381.0500	479.4750	49.2130	47.6250	34.9250	8.0000	3.2000	42.5	443.0	1 070.0	600	800	20.000	CBK-433	L865547/L865512	0.49	1.21	0.67	
406.400	406.4000	508.0000	61.9120	61.9120	47.6250	3.3000	3.3000	20.3	842.0	2 230.0	670	900	26.300	L467549/L467510	L467549/L467510	0.37	1.64	0.89	
409.575	409.5750	546.1000	87.3120	87.3120	68.2620	6.4000	6.4000	17.7	1 360.0	3 200.0	260	360	54.800	518-1141	M667948/667911	0.42	1.44	0.79	
536.575	536.5750	820.0000	152.0000	146.0000	112.0000	6.0000	5.0000	9.0	3 950.0	7 960.0			273.000	518-1142		0.43	1.41	0.78	
635.000	635.0000	933.4500	179.3880	177.8000	141.2880	11.9000	6.4000	-14.0	5 080.0	11 600.0			410.000	518-1144		0.33	1.80	0.99	

SPECIAL BALL AND ROLLER BEARINGS



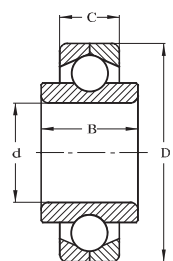


Fig. 1

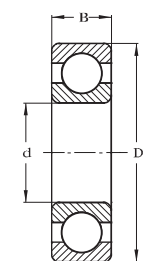


Fig. 2

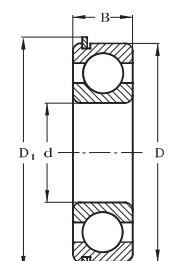


Fig. 3

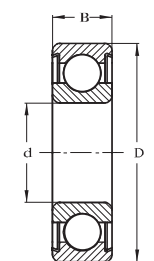


Fig. 4

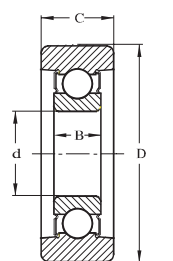


Fig. 5

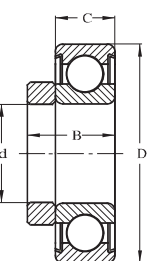


Fig. 6

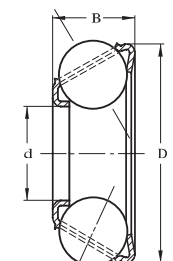


Fig. 7

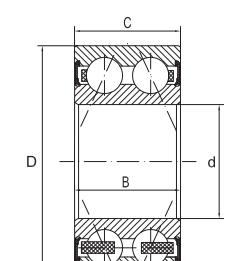
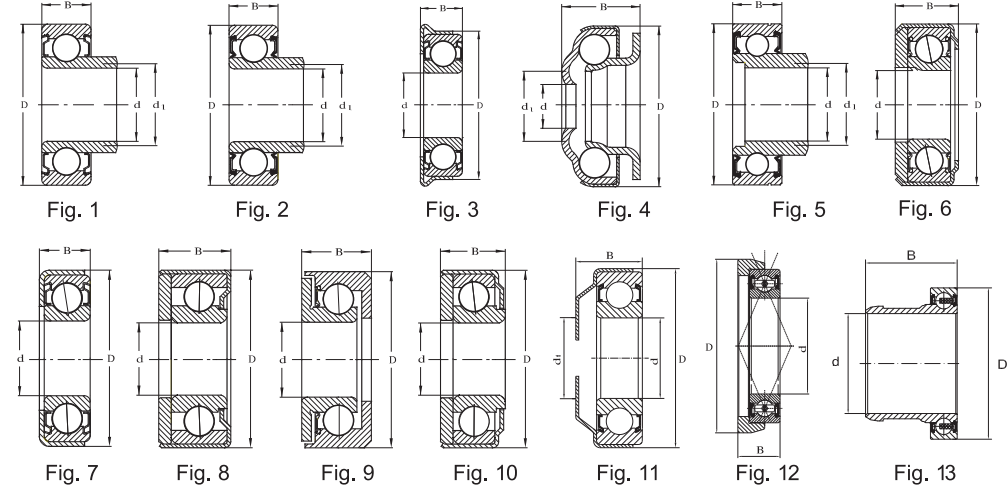
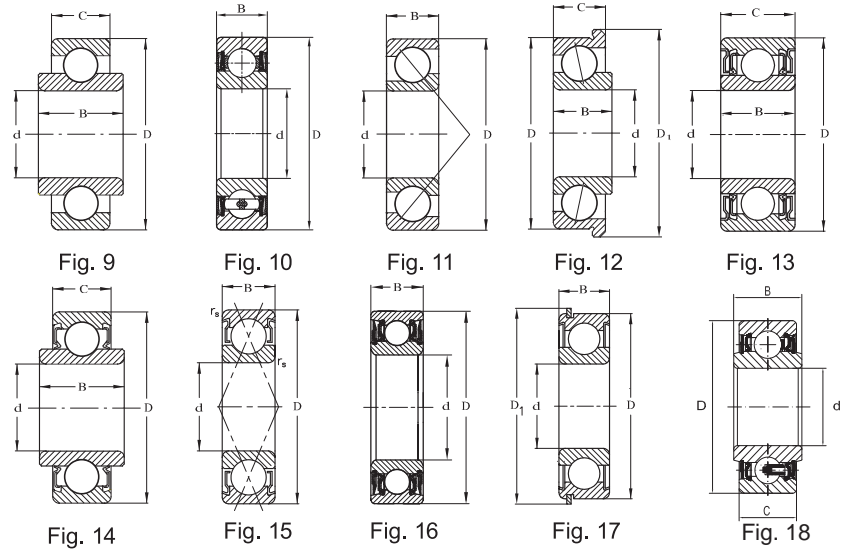


Fig. 8

DIMENSIONS WYMIARY GŁÓWNE					BASIC LOAD RATING NOŚNOŚĆ		BEARING DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS MASA	FIG No NR RYS.
d	D	D ₁	B	C	dynamic dynamiczna C	static statyczna C ₀	~		
mm					kN		kg		
25.000	52		25	15	19.7	13.1	113-1048	0.171	1
	62		12		16.6	9.6	68305	0.173	2
	62		14		20.6	11.2	68341	0.190	2
28.000	67	73.6	18		25.0	13.8	114-618 NR	0.289	3
	28.575	71.425	20.638		28.2	15.8	MS-11	0.330	2
28.580	71.425	20.638			29.7	15.7	CBK-296	0.306	2
30.000	42		7	6	4.1	3.3	113-817	0.250	9
	55		16		13.8	8.3	113-945-2RS3-2BRS3	0.150	16
	57		16		13.2	8.3	113-867TNG 2RSRS6	0.177	16
	62		16		22.5	14.7	133-759	0.212	11
	62		16		16.0	10.3	113-1065-2RS3-2BRS8	0.250	16
	75	80.4	19		30.0	16.1	CBK-083-2RSP66	0.380	17
	65		21		25.0	13.8	CBK-086 B	0.300	4
	84		19	27.3	28.2	15.8	CBK-468	0.623	5
34.800	72		31.5	21.5	25.7	15.3	114-755-2RS	0.440	6
35.000	55		20	20	14.96	12.82	133-01810		8
	62		16		16.8	10.3	113-818-2RS3	0.179	10
	72		25	25	25.7	15.3	114-865-2RS3-2Z*	0.406	13
	85	91.6	23		33.5	18.3	114-942-2RSNR	0.606	17
	93.5		21	37.25	25.8	18.3	11/6307-2RSA R5-20*	1.020	5
	96.25		21	37.25	25.8	18.3	12/6307-2RS R5-20*	1.240	5
	97		21	37.25	25.8	18.3	12/6307-2RSA R5-20	1.240	5
37.000	55		11.25		22.5	14.8	CBK-361	0.061	7
38.892	80		27.5	21	32.5	19.0	114-743-2RSRC5	0.460	14
40.000	80		27	21	29.1	17.9	114-732-2RSR	0.425	14



DIMENSIONS					BASIC LOAD RATING		BEARING DESIGNATIONS	MASS	FIG No	DIMENSIONS			PRESSURE DIAMETER	BASIC LOAD RATING		BEARING DESIGNATIONS	MASS	FIG No
WYMIARY GŁÓWNE					NOŚNOŚĆ		OZNACZENIE PODSTAWOWE	MASA	NR RYS.	WYMIARY GŁÓWNE			NOŚNOŚĆ	NOŚNOŚĆ		OZNACZENIE PODSTAWOWE	MASA	NR RYS.
d	D	D ₁	B	C	dynamic	static		~		d	D	B	d ₁	dynamic	static		~	
mm					kN			kg		mm			mm	kN			kg	
					C	C ₀								C	C ₀			
45.000	75		19	16	21.0	15.2	114-751-2RS	0.400	14	29.500	52.7	15.000	34.0	11.9	8.0	173-722	0.069	4
	75		19		21.0	15.2	114-878BTNG2RS-2RS3S0	0.280	16	30.000	55.0	13.000	34.0	13.2	8.3	CBK-206-2Z	0.135	1
	75		19		21.0	15.2	114-879BTNG2RS-2RS3S0	0.270	16		55.0	13.000	34.0	13.2	8.3	CBK-206-2RS	0.135	2
	85		50	19	32.7	20.5	114-771	0.630	9	31.500	52.7	15.000	39.5	11.9	8.0	173-723	0.068	4
50.000	85		27	21	32.7	20.5	88509	0.580	14	32.000	58.0	14.500		13.2	8.3	CBK-182A	0.130	3
	75		19		22.1	15.2	114-1110TNG 2RS3-2BRS3	0.270	16	35.900	62.0	14.000	39.5	16.0	10.3	CBK-269	0.153	1
	80		16		33.0	31.0	134-956-ZZ	0.260	15		62.0	14.000	39.5	16.0	10.3	CBK-269ZRS	0.153	1
52.413	90		30	22	28.3	21.3	134-956-2RS	0.260	15	37.000	62.0	14.000	39.5	16.0	10.3	CBK-269X1	0.170	1
	90		18		28.3	21.3	114-1310-2RS-2BRS-R33-43*	0.602	18		62.0	14.000	39.5	11.6	8.2	CBK-302	0.150	5
55.000	90		22		29.6	21.3	114-741	0.392	2	42.000	62.0	32.550		12.1	8.9	VE535D5100	0.151	13
	100		21		66.3	55.0	114-1015-2RS-2BRS	0.450	16	50.000	81.6	25.000		21.8	16.6	114-733	0.440	6
60.000	110		55	22	35.3	36.0	134-955-2Z	0.604	15		90.5	22.000		33.0	31.0	174-1075	0.445	12
	80		12		20.2	19.2	114-772	1.148	9	50.500	90.0	49.700		25.8	18.0	VE535G5100		13
70.000	110		26		46.1	33.1	114-940TN	0.109	2	52.388	84.5	18.000	54.0	21.8	16.6	CBK-197	0.330	7
	115		26		39.7	31.0	114-1019-2RSR2-2BRS2	0.850	16		84.3	27.000		21.8	16.6	114-791-2Z	0.380	11
75.000	115		26		39.7	31.0	114-980-2RSR2-2BRS2	0.760	16	52.413	91.6	22.800		28.3	21.3	114-742	0.560	8
	115		26		39.7	31.0	114-1151-2RSR2-2BRS2	0.930	16	55.000	92.0	28.500		28.3	21.3	114-744TNRS	0.660	9
85.000	115		26		41.6	33.5	114-1046-2RSR2-2BRS2	0.810	16	63.505	100.0	21.971		30.5	25.2	CBK-297	0.560	10
	115		26		19.2	19.8	114-1079TNG 2RSR2-2BRS2	0.810	16	65.000	100.0	21.971		30.5	25.2	CBK-297X1	0.535	10
110.000	160		30		43.6	44.5	114-1079TNG 2RSR2-2BRS2	0.680	16	75.000	117.0	27.000		39.5	33.5	114-740	0.870	6
	160		30		43.6	44.5	115-1189TNG 2RS	1.750	4	78.000	115.0	55.000		47.6	39.8	VE535A6400		13
140.000	215	225	43	38	116.0	139.0	CBK-031P6	7.450	12									

SUFFIX Characters placed after basic designation
Znaki umieszczone za oznaczeniem podstawowym

- *R5-20 – Bearing with radial clearance 5-20 μm
- *R5-20 – Łożysko z luzem promieniowym 5-20μm
- *R33-43 – Bearing with radial clearance 33-43μm
- *R33-43 – Łożysko z luzem promieniowym 33-43μm
- *2RS3-2Z – Bearing with seals and shields
- *2RS3-2Z – Łożysko z uszczelnieniem RS3 i blaszką ochronną Z

SUFFIX Characters placed after basic designation
Znaki umieszczone za oznaczeniem podstawowym

- A** – Changed internal design
- A - Zmiana konstrukcji wewnętrznej
- 2Z** – Bearing with two shields
- 2Z - Łożysko z uszczelnieniem blaszkami ochronnymi
- 2RS** – Bearing with two rubber seals
- 2RS - Łożysko z uszczelkami gumowymi
- TNRS** – Bearing with plastic cage and rubber seals
- TNRS - Łożysko z koszykiem plastikowym i uszczelką gumową

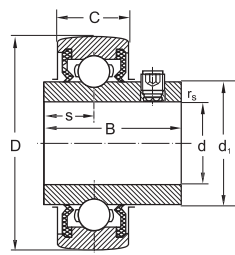


Fig. 1

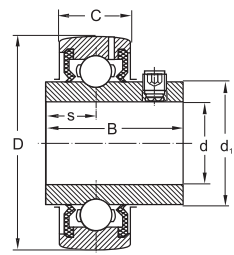


Fig. 2

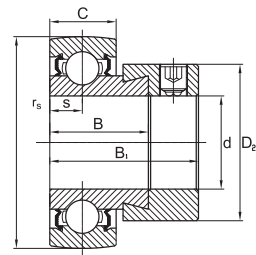


Fig. 3

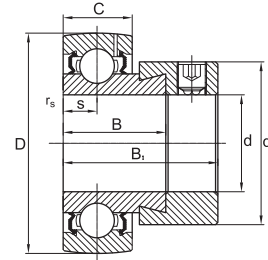


Fig. 4

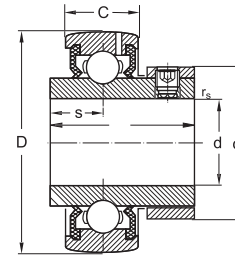


Fig. 5

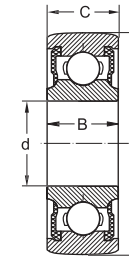


Fig. 6



SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE									BASIC LOAD RATING NOŚNOŚĆ		MASS MASA	FIG No NR RYS.	DESIGNATION OZNACZENIE wg	
	d	D	B	B ₁	C	r _s	S	d ₁	d ₂	dynamic dynamiczna C	static statyczna C ₀			~	FŁT
	mm									kN		kg			
20	20	47.0	31.0		16	1	12.7			12.80	6.65	0.160	2	FC204	UC204
	20	47.0	31.0		14	0.6				12.80	6.55	0.140	4	FD204	
25	25	52.0	34.1		17	1.0	14.3			14.00	7.85	0.200	2	FC205	UC205
	25	52.0	34.1		15	0.6				14.00	7.80	0.170	4	FD205	
30	25	52.0	15.0		15	1.0				14.00	7.80	0.129	6	K6205 2RS	
	30	62.0	39.1		19	1.0	15.9	40.70		19.50	11.35	0.320	1	C206	
35	30	62.0	39.1		19	1.0	15.9	40.70		19.50	11.35	0.320	2	FC206	UC206
	30	62.0	23.8	35.7	18	1.0	9.0		45.00	19.50	11.35	0.300	3	D206	SA206M
40	30	62.0	23.8	35.7	16	1.0	9.0		45.00	19.50	11.35	0.300	4	FD206	
	30	62.0	16.0		16	1.0				19.50	11.35	0.180	6	K62062RS	
45	35	72.0	42.9		20	1.1	17.5	46.90		19.70	15.30	0.570	1	C207	
	35	72.0	42.9		20	1.1	17.5	46.90		19.70	15.30	0.570	2	FC207	UC207
50	35	72.0	25.4	38.9	19	1.1	9.5		56.50	19.70	15.30	0.480	3	D207	SA207M
	35	72.0	25.4	38.9	17	1.1	9.5		56.50	19.70	15.30	0.480	4	FD207	
55	35	72.0	42.9		20	1.1	17.5		58.90	19.70	15.30	0.590	5	FB207	
	35	72.0	17.0		17	1.1				19.70	15.30	0.290	6	K62072RS	
60	35	72.0	17.0		17	1.1				19.70	15.30	0.290	6	K6207K 2RS	
	40	80.0	49.2		21	1.1	19.0	52.40		22.40	17.90	0.640	2	FC208	UC208
65	40	80.0	29.7	43.7	18	1.1	11.0		60.00	22.40	17.90	0.590	4	FD208	
	40	80.0	49.2		19	1.1	19.0		66.50	22.40	17.90	0.720	5	FB208	
70	40	80.0	18.0		18	1.1				22.40	17.90	0.320	6	K62082RS	
	40	80.0	18.0		18	1.1				22.40	17.90	0.320	6	K6208K 2RS	
75	40	110.0	52.0		32	1.5	22.0	67.50		62.00	37.10	1.840	1	114-981 2RS 2Z	
	40	90.0	23.0		23	1.5				40.70	23.90	0.630	6	K6308 2RS	
80	40	90.0	52.0		28	1.1	19.0	55.20		40.70	23.90	1.117	1	114-708(728) 2RS	
	45	85.0	49.2		22	1.1	19.0	57.40		25.20	20.50	0.680	2	FC209	UC209
85	45	85.0	29.7	43.7	19	1.1	11.0		63.50	25.20	20.50	0.660	4	FD209	
	45	85.0	19.0		19	1.1				32.70	20.50	0.370	6	K6209 2RS	
90	45	85.0	30.0		22	1.0	15.0	56.57		25.20	20.50	0.550	1	114-802K	
	45	100.0	25.0		25	1.5				40.60	31.70	0.800	6	K6309 2RS	
95	50	90.0	20.0		20	1.1				20.00	23.20	0.440	6	K6210 2RS	
	50	90.0	51.6		24	1.1	19.0	62.40		35.10	23.20	0.800	2	FC210	UC210
100	50	90.0	30.2	43.7	20	1.1	11.0		69.90	35.10	23.10	0.910	4	FD210	
	50	90.0	51.6		22	1.1	19.0		79.00	35.10	23.20	1.000	5	FB210	
105	55	100.0	55.6		25	1.5	22.2	68.70		33.40	29.20	1.110	2	FC211	UC211
	55	100.0	55.6		25	1.5	22.2		88.00	33.40	29.20	1.350	5	FB211	

Truck and Support rollers, Must Guide bearings

łożyska kulkowe - Rolki toczne i prowadzące

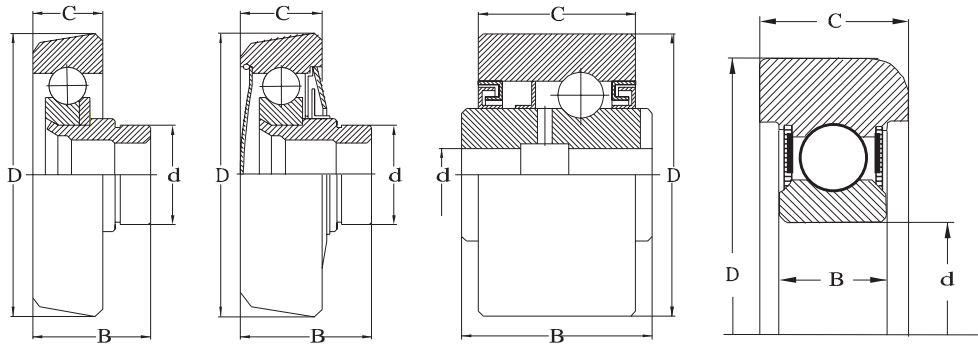


Fig. 1

Fig. 2

Fig. 3

Fig. 4

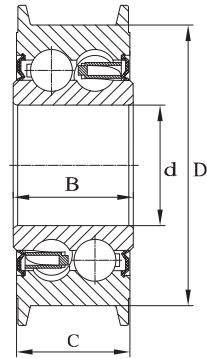


Fig. 5

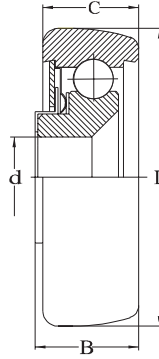


Fig. 6

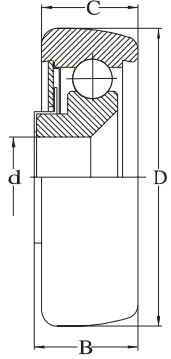


Fig. 7

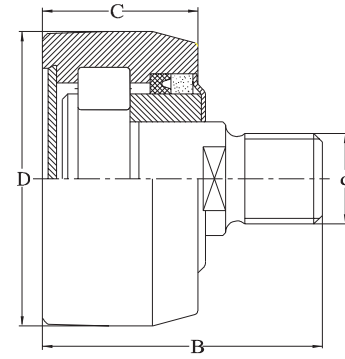


Fig. 8

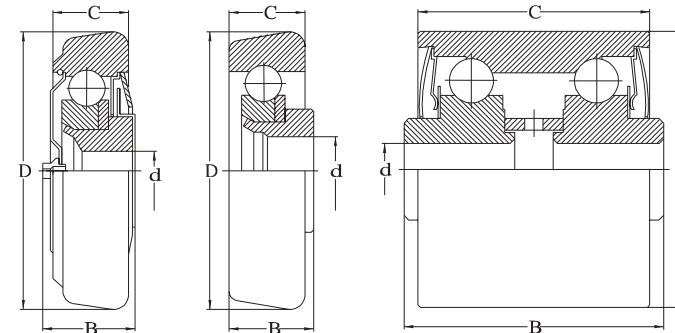


Fig. 9

Fig. 10

Fig. 11

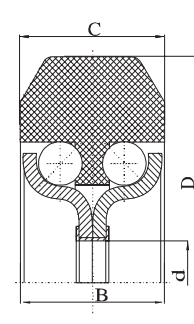


Fig. 12

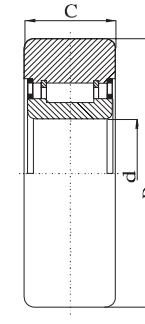


Fig. 13

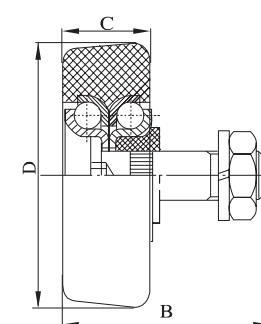


Fig. 14



DIMENSIONS				BASIC LOAD RATING		BEARING DESIGNATIONS	MASS	FIG No	DIMENSIONS				BASIC LOAD RATING		BEARING DESIGNATIONS	MASS	FIG No	
WYMIARY GŁÓWNE				NOŚNOŚĆ					WYMIARY GŁÓWNE				NOŚNOŚĆ					OZNACZENIE PODSTAWOWE
d	D	B	C	dynamic	static				d	D	B	C	dynamic	static				
mm	mm	mm	mm	C _d	C _s				kN	kg	mm	mm	mm	mm				C _d
9.55	50.500	15.3	16			NG-2WHEEL	0.051	12	45.00	95.000	41.0	38	52.0	39.9	174-1057 TNG-2RS	1.270	5	
12.20	71.400	55.5	52	50.0	37.0	124-659DV-2Z	1.151	11	50.00	114.000	25.0	30	53.0	31.7	114-851-2RS	1.440	4	
	71.400	71.0	65.1	50.0	37.0	124-662DV-2Z	1.440	11		115.000	25.0	30	53.0	31.7	114-850-2RS	1.460	4	
14.05	63.000	44.0	34.5	16.0	7.9	CBK-191	0.669	3	50.00	116.000	25.0	30	53.0	31.7	114-886-2RS	1.500	4	
16.00	59.000	20.5	19	14.0	7.9	CBK-274B	0.227	6		117.000	25.0	32	53.0	31.7	114-902-2RS	1.630	4	
	59.000	20.5	19	14.0	7.9	CBK-274C	0.227	7	118.000	25.0	32	53.0	31.7	114-903-2RS	1.670	4		
16.05	76.000	50.0	39	28.2	15.8	CBK-196	1.046	3	50.00	119.000	25.0	32	53.0	31.7	114-947-2RS	1.710	4	
	60.325	46.8	19.3			FW-100-2-3/8	0.163	14		120.000	25.0	32	53.0	31.7	114-948-2RS	1.760	4	
20.00	52.000	59.0	30.6	25.0	21.7	CBK-320	0.512	8	50.00	129.000	27.0	34	62.0	37.9	115-914-2RS	2.090	4	
	80.000	52.0	27	21.2	10.9	CBK-188	0.780	2		130.000	27.0	34	62.0	37.9	115-915-2RS	2.140	4	
	80.000	52.0	27	30.3	18.7	CBK-188 VA*	0.840	1		131.000	27.0	34	62.0	37.9	115-916-2RS	2.190	4	
23.00	82.000	26.5	24	23.7	13.4	CBK-189	0.566	9	50.00	132.000	27.0	34	62.0	37.9	115-946-2RS	2.250	4	
	82.000	26.5	24	34.4	23.4	CBK-189 V*	0.620	10		136.652	46.304		144.0	231.0	675-815-2RS	3.860	13	
25.40	82.000	29.5	27	28.2	15.8	CBK-243 B	0.620	6	50.00	149.000	31.0	36	82.0	52.0	115-933	2.987	4	
	82.000	29.5	27	28.2	15.8	CBK-243 C	0.620	7		150.000	31.0	36	82.0	52.0	115-934	3.051	4	
28.00	134.000	33.5	30	43.4	29.2	CBK-195A	2.330	9	50.00	151.000	31.0	36	82.0	52.0	115-935	3.115	4	
	99.000	23.0	27	40.7	23.9	114-841-2RS	1.125	4		72.70	174.625	61.925		279.0	424.0	675-846-2RS	8.300	13
	100.000	23.0	27	40.7	23.9	114-842-2RS	1.125	4										
	101.000	23.0	27	40.7	23.9	114-869-2RS	1.004	4										
102.000	23.0	27	40.7	23.9	114-870-2RS	1.036	4											

*Bearings without cage with full quantity of rolling elements | *Łożyska bez kosza z pełną ilością wałków

Bearings without cage with full quantity of rolling elements

Łożyska bez koszyka z pełną ilością wałków

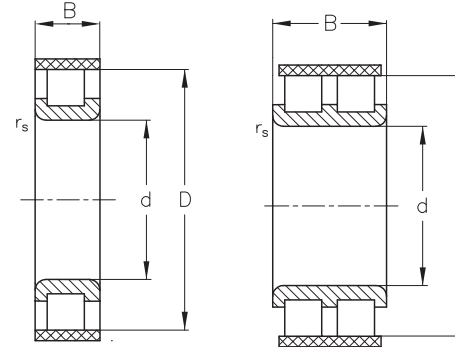
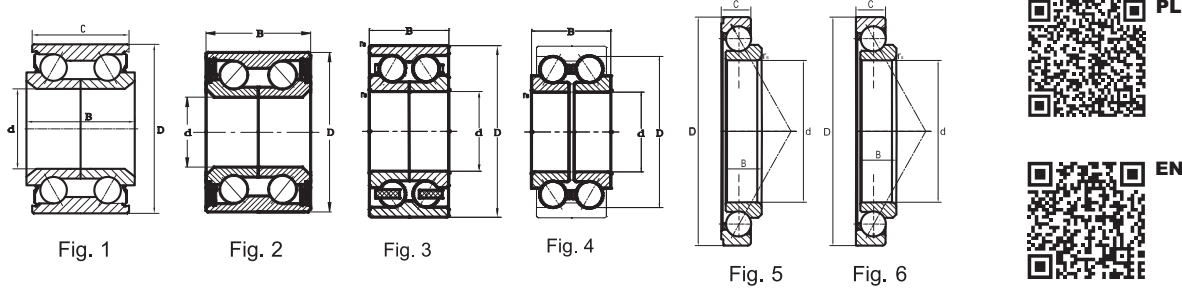


Fig. 1

Fig. 2

SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE					BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		DESIGNATION F&T OZNACZENIE F&T	MASS MASA	FIG No NR RYS.	DIMENSIONS WYMIARY GŁÓWNE				DESIGNATIONS F&T OZNACZENIE	BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	FIG No NR RYS.
	d	D	B	C	r _s	dynamic C	static C ₀	grease w smarze	oil w oleju				d	D	B	r _s		dynamic C	static C ₀	grease w smarze	oil w oleju		
	mm					kN		r/min					mm					kN		r/min			
30	30	60.000	37.000	37.0	2.5	37.80	31.10	7 000		CBK-199TNG	0.450	1	12	23.77	10	1.8	262-1098	9.25	8.71			0.020	1
	30	60.000	37.000	37.0	2.5	37.80	31.00	7 000		CBK-199BTNG	0.420	2	15	25.93	10.5	0.3	262-345	10.80	10.90				1
	30	60.030	37.000	37.0	2.5	37.80	31.10	7 000		CBK-441TNG	0.440	1	18	30.52	13.0	2.0	263-899	19.9	21.2	4 600	6 200	0.044	1
	30	60.030	37.000	37.0	3.2	37.80	31.10	7 000		CBK-441BTNG	0.440	2	19	33.84	19.0	2.0	236-811	37.0	45.2	3 900	5 200	0.074	1
	30	60.030	37.000	37.0	0.3	37.80	31.10	7 000		133-637TNG-2RS	0.420	1	20	33.83	18.0	0.3	263-346	26.1	28.8	3 900	5 200		1
34	34	64.000	37.000	37.0	2.4	42.20	35.40	6 300		133-639BATNG	0.430	2	24	36.81	16.0	2.6	263-919	27.5	27.9	3 900	5 200	0.061	1
	34	66.000	37.000	37.0	2.4	42.20	35.40	6 300		134-1009TNG 2RS	0.520	2		33.90	16.0	2.6	263-1023	27.0	30.0	3 900	5 200	0.070	1
	34	64.000	37.000	37.0	2.4	42.20	35.40	6 300		133-639BATNG-2RS-2BRS6	0.430	2		40.25	26.0	2.5	263-904	44.0	59.8	3 400	4 600	0.140	2
35	35	66.000	33.000	33.0	2.5	39.90	34.70	6 300		134-781TNG-2RS	0.460	1	25	40.18	24.0	2.5	263-810	53.7	77.2	3 400	4 600	0.130	1
	35	68.000	37.000	37.0	2.5	43.60	37.20	6 300		134-643TNG-2RS	0.530	1		42.51	12.0	2.6	263-1122	21.9	21.8	3 100	4 100	0.070	1
	35	68.000	37.000	37.0	2.5	43.60	37.20	6 300		134-738PTNG-2RS-2BRS6	0.530	2		42.51	12.0	2.6	263-1063	20.7	20.1	3 100	4 100	0.060	1
37	35	68.015	37.000	37.0	2.5	41.70	35.50	6 300		134-863TNG-2RS	0.563	1	30	46.52	18.0	3.0	263-898	45.0	48.1	3 100	4 100	0.130	1
	37	72.000	37.000	37.0	2.4	44.20	39.70	5 000		134-964PTNG-2RS-2BRS	0.577	1		46.52	18.0	3.0	263-1294	45.0	48.1	3 100	4 100	0.156	1
	39	68.000	37.000	37.0	3.2	39.80	36.30	5 600		134-746BDTNG-2RS	0.420	2		42.51	16.0	2.5	263-1021	31.2	34.4	3 100	4 100	0.095	1
39	39	72.000	37.000	37.0	2.4	44.20	39.70	5 000		134-725PTNG-2RS-2BRS	0.500	2	40.25	26.0	2.5	263-1092	44.0	59.8	3 100	4 100	0.130	2	
	40	72.000	37.000	37.0	2.4	44.20	39.70	5 000		134-797BTNG-2RS	0.520	2	42.55	18.0	3.0	263-1105	40.5	47.8	3 100	4 100	0.110	1	
42	42	80.000	42.000	42.0	2.4	65.00	55.50	5 000		134-739BTNG-2RS	0.753	2	49.60	26.0	3.0	263-920	57.1	70.4	2 800	3 800	0.200	2	
	42	80.030	42.000	42.0	2.4	65.00	55.50	5 000		134-806BTNG-2RS	0.750	2	49.60	26.0	3.0	263-922	57.1	70.4	2 800	3 800	0.188	2	
48	48	82.000	37.000	33.0	3.2	53.00	50.00	5 000		134-905TNGRS6RS	0.631	1	49.60	26.0	2.5	263-940	64.7	82.1	2 800	3 800		1	
	100	125.000	29.000		1.0	34.30	43.70	3 200		135-1042TNG	0.640	3	49.60	25.0	3.0	263-1089	57.1	70.4	2 800	3 800	0.183	2	
110	110	140.000	30.000	30.0	1.0	43.00	57.00	2 800	3 400	135-954TNG	0.908	3	50.74	14.0	3.0	263-1305	31.1	30.9	2 800	3 800		1	
	130	172.000	38.000	38.0	1.0	86.70	109.80	2 300	2 700	135-929TNG	1.870	3	54.01	31.0	3.0	263-809	90.5	131.0	2 800	3 800	0.320	1	
150	150	198.000	20.000	20.0	1.5	90.30	112.00		2 200	135-1398TNG	1.430	5	51.75	29.0	3.0	263-1017	71.5	95.5	2 600	3 500	0.232	2	
	150	198.000	20.000	20.0	1.5	90.30	112.00		2 200	135-1471TNG	1.450	6	46.60	25.0	3.0	263-1022	54.3	82.5	2 600	3 500	0.159	2	
160	160	204.576	53.000		1.8	171.00	263.00		2 200	166-1012TNG	2.620	4	46.60	28.0	3.0	263-1062A	52.2	78.5	2 600	3 500		2	
	190	254.035	70.126		2.5	281.00	440.00		1 700	166-997TNG	5.290	4	52.09	26.5	3.0	263-1361	60.3	86.0	2 600	3 500		2	
200	200	280.446	93.126		2.5	385.00	620.00		1 500	167-994TNG	9.220	4	38	52.95	28.0	3.0	263-921	59.2	97.0	2 500	3 400	0.195	2
	230	311.446	91.626		3.0	405.00	700.00		1 400	167-995TNG	10.640	4	40	57.81	34.0	3.2	263-1177	86.0	141.0	2 300	3 000	0.291	2
230	230	311.446	91.626		3.0	405.00	700.00		1 400				61.74	28.0	2.5	236-941	87.0	118.3	2 300	3 000		1	
													61.74	28.0	3.5	263-918	70.6	90.6	2 300	3 000	0.279	2	
													61.74	32.0	3.0	263-917	85.4	115.8	2 300	3 000	0.329	2	
													61.74	38.0	1.1	263-962	101.0	143.0	2 300	3 000	0.377	2	
													75.63	78.0	1.1	264-175	248.0	325.0	1 800	2 500		2	

Bearings without cage with full quantity of rolling elements

Łożyska bez koszyka z pełną ilością wałków

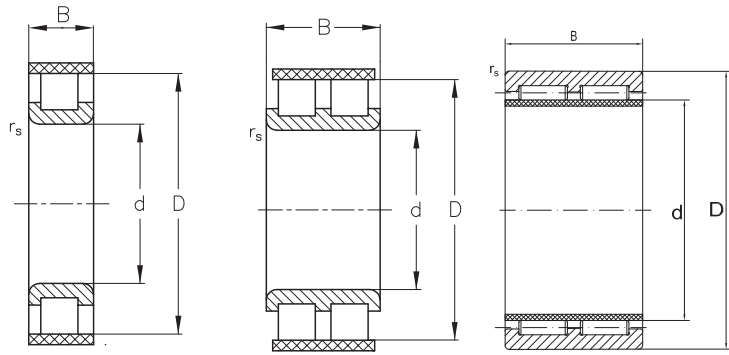
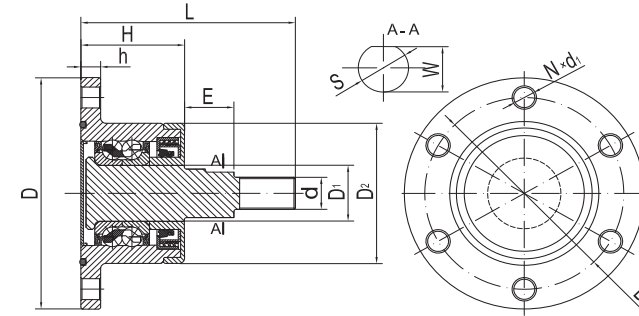


Fig. 1

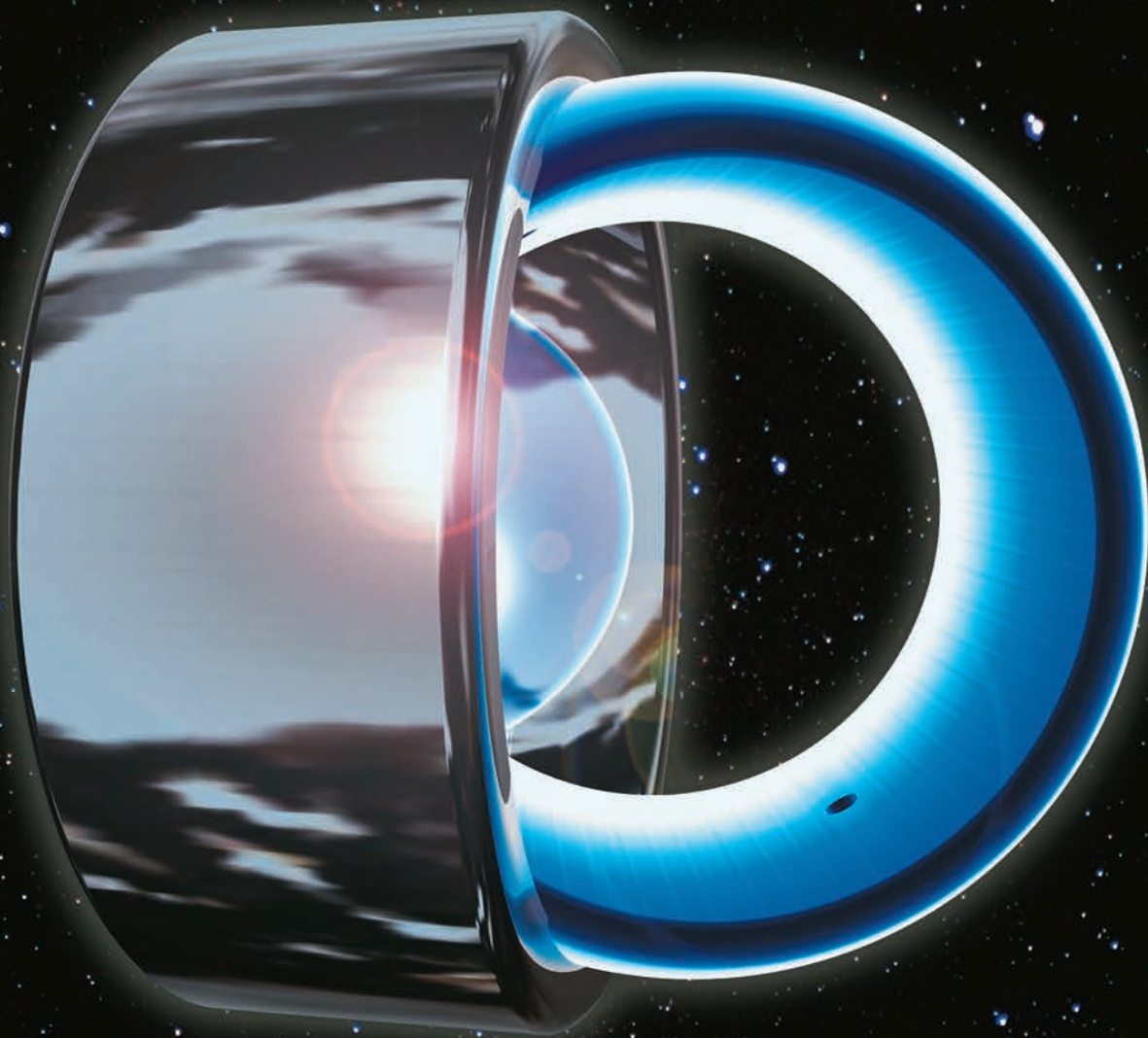
Fig. 2

FIG 3



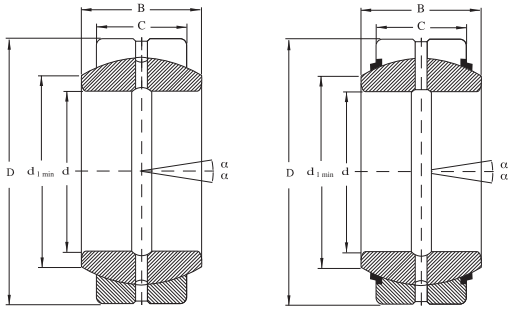
DIMENSIONS WYMIARY GŁÓWNE				DESIGNATIONS FŁT OZNACZENIE	BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA ~	FIG No NR RYS.	DIMENSIONS WYMIARY GŁÓWNE											BASIC LOAD RATING NOŚNOŚĆ		DESIGNATION OZNACZENIE		
d	D	B	r _s min		dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju			d	D	D ₁	D ₂	D ₃	S	W	d ₁	N	L	h	H	E		dynamic dynamiczna C	static statyczna C ₀
mm					kN		r/min		kg		mm											kN				
42	60.75	37.0	3.0	263-924	100.7	156.9	2 300	3 000	0.347	2	M22x1.5	117.0	30	81	98	28	25.7	M12x1.25	4	101.5	10	60.0	13.2	47.50	37.50	PR040/4x98
44	62.97	37.0	2.5	263-1020	103.5	164.4	2 100	2 800	0.370	2	M22x1.5	142.0	30	81	115			M12x1.25	6	102.0	10	60.0	14.6	46.80	36.60	PR050/6x115
45	66.85	37.5	3.5	263-923	106.0	157.0	2 100	2 800	0.428	2	M24x1.5	145.0	35	86	116	30	28.0	13	5	127.5	10	60.5	30.0	49.80	40.20	PR050N/5x116
50	83.88	85.0	1.1	264-176	275.0	380.0			1.820	2	M24x1.5	140.0	35	89	118	30	28.0	13	5	98.5	10.5	52.5	18.0	49.80	40.20	PR050N/5x118
	69.67	37.5	2.5	263-1382	108.3	180.8	1 800	2 500		2	M22x1.5	117.0	30	81	98	28	25.7	M12x1.25	6	101.5	10.0	60.0	13.2	47.50	37.50	PR060/6x98
	69.67	42.5	6.0	264-428	118.0	202.0	1 800	2 500		2	M24x1.5	145.0	35	86	120	30	28.0	13	6	127.5	10	60.5	30.0	49.80	40.20	PR060N/6x120
	72.33	40.0	1.1	263-1024	131.0	195.0	1 800	2 500	0.489	2	M22x1.5	117.0	30	81	98	28	25.7	M12x1.25	5	101.5	10	60.0	13.2	47.50	37.50	PR120/5x98
	72.33	42.0	1.1	263-963	131.0	195.0	1 800	2 500	0.500	2	M24x1.5	145.0	35	86	120	30	28.0	13	6	127.5	10	60.5	30.0	49.80	40.20	PR120/5x98
	94.75	44.0	6.2	264-1018	178.0	237.0	1 400	1 900	1.270	2	M22x1.5	117.0	30	81	98	28	25.7	M12x1.25	5	101.5	10	60.0	13.2	47.50	37.50	PR120/5x98
72.00	31.0	4.0	264-1064	114.8	178.7	1 800	2 500	0.391	2																	
55	94.80	100	1.1	264-177	330	475	1400	1900	2.43	2																
65	110.00	110	1.5	264-178	455	660	1400	1900	3.63	2																
70	85.00	44	1.0	264-604	130	312				3																
75	127.55	120	2.0	265-175	550	860				2																
80	141.92	130	2.0	265-180	730	1110				2																
95	155.87	150	2.0	265-181	860	1400				2																

SPHERICAL PLAIN BEARINGS



FŁT Spherical Plain Bearings

łożyska przegubowe



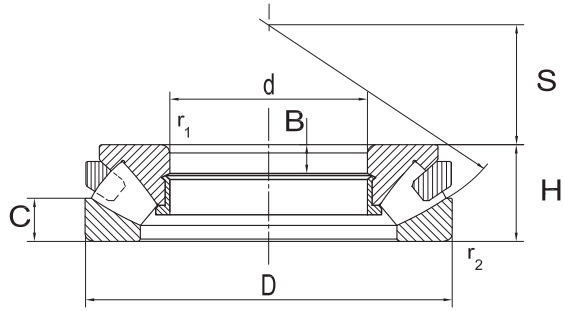
DIMENSIONS						BASIC LOAD RATING		BASIC DESIGNATIONS		MASS
WYMIARY GŁÓWNE						NOŚNOŚĆ		OZNACZENIE PODSTAWOWE		MASA
d	D	B	C	d ₁	α°	dynamic dynamiczna C	static statyczna C ₀			~
mm						kN				kg
15	26	12	9	16.6	8	18.0	45	GE15ES		0.032
20	35	16	12	21.8	9	31.5	78	GE20ES	GE20ES-2RS	0.065
25	42	20	16	27.7	7	51.0	127	GE25ES		0.120
30	47	22	18	34.0	6	62.0	310	GE30ES	GE30ES - 2RS	0.150
35	55	25	20	39.0	6	80.0	400	GE35ES	GE35ES - 2RS	0.230
40	62	28	22	45.0	7	100.0	500	GE40ES	GE40ES - 2RS	0.310
45	68	32	25	50.0	7	127.0	637	GE45ES	GE45ES - 2RS	0.410
50	75	35	28	55.0	6	156.0	780	GE50ES	GE50ES - 2RS	0.560
60	90	44	36	66.0	6	245.0	1 220	GE60ES	GE60ES - 2RS	1.010
70	105	49	40	77.0	6	315.0	1 560	GE70ES	GE70ES - 2RS	1.530
80	120	55	45	88.0	6	400.0	2 000	GE80ES	GE80ES - 2RS	2.280
90	130	60	50	98.0	5	490.0	2 450	GE90ES	GE90ES - 2RS	2.730
100	150	70	55	109.0	7	610.0	3 050	GE100ES	GE100ES - 2RS	4.380
110	160	70	55	120.0	6	655.0	3 250	GE110ES	GE110ES - 2RS	4.800
120	180	85	70	130.0	6	950.0	4 750	GE120ES	GE120ES - 2RS	7.950
140	210	90	70	150.0	7	1 071.0	5 355	GE140ES	GE140ES - 2RS	10.980
160	230	105	80	170.0	8	1 360.0	6 800	GE160ES	GE160ES - 2RS	13.980
180	260	105	80	192.0	6	1 496.0	7 480	GE180ES	GE180ES - 2RS	18.580

SPHERICAL ROLLER THRUST BEARINGS

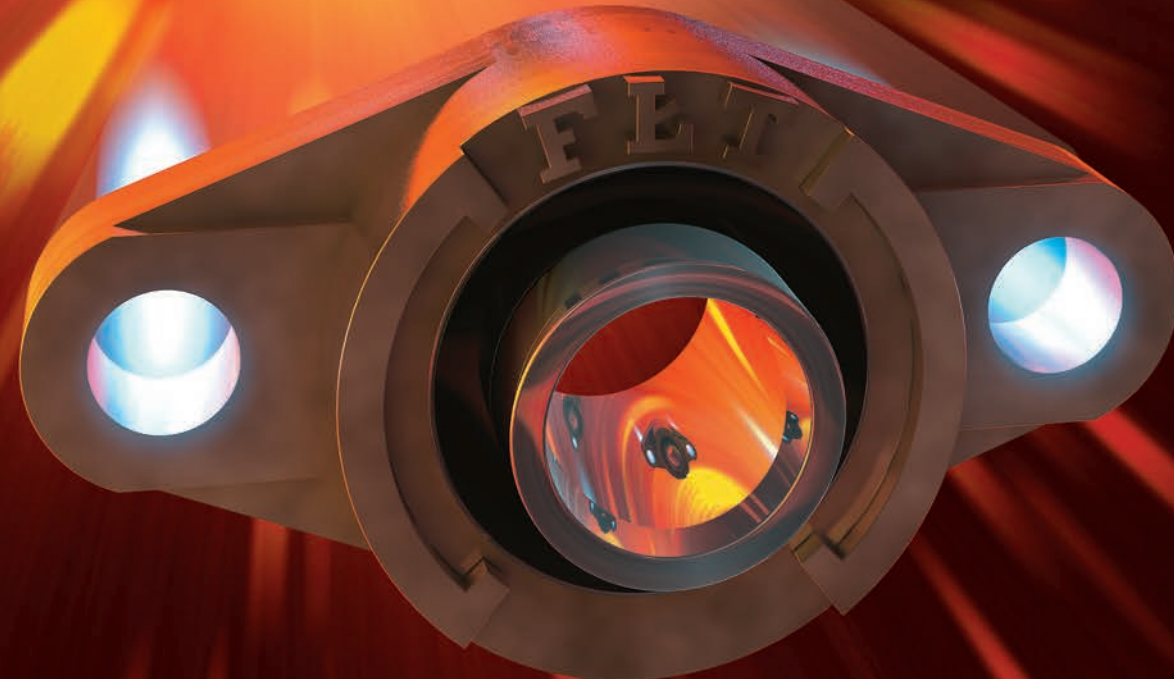
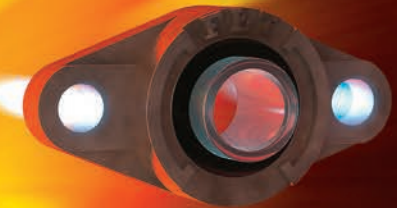
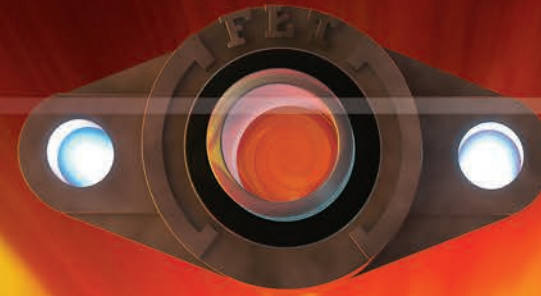


FŁT Spherical Roller Thrust Bearings

łożyska barytkowe wzdłużne



UNITS



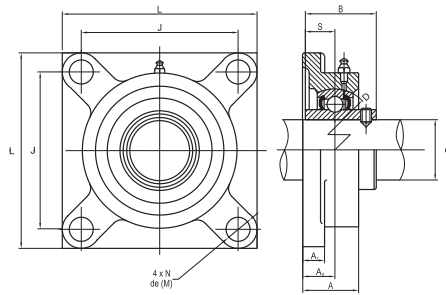
DIMENSIONS							BASIC LOAD RATING		BASIC DESIGNATIONS	MASS
WYMIARY GŁÓWNE							NOŚNOŚĆ			MASA
d	D	H	B	C	S	r _{1,2}	dynamic dynamiczna C	static statyczna C ₀		~
mm							kN			kg
60	130	42	15	20.0	38	1.5	335	900	29412M	2.23
65	140	45	16	21.0	42	2.0	380	1 020	29413M	3.03
70	150	48	17	23.0	44	2.0	430	1 200	29414M	3.70
80	170	54	19	26.0	50	2.1	550	1 560	29416M	5.28
85	180	58	21	27.3	54	2.1	510	1 450	29417M	7.19
90	190	60	39	28.5	56	2.1	702	2 000	29418M	7.75
100	210	67	43	32.0	62	3.0	836	2 500	29420	7.50
	210	67	24	32.4	62	3.0	680	1 900	29420M	11.20
110	190	48	26	35.0	69	2.0	950	2 800	29322M	13.10
	230	73	26	34.5	69	3.0	780	2 340	29422M	14.70
120	210	54	19	22.2	70	2.1	686	2 223	29324	7.35
	210	54	18	25.9	70	2.1	520	1 740	29324M	7.96
	250	78	28	36.6	74	4.0	915	2 770	29424M	18.50
130	270	85	31	41.0	81	4.0	1 250	3 900	29426M	19.00
140	240	60	22	29.0	82	2.1	800	2 700	29328M	9.90
160	270	67	24	32.0	92	3.0	965	3 350	29332M	13.60
	320	95	34	47.1	99	5.0	1 430	4 370	29432M	35.90
190	380	109	69.5	53.0	110	5.0	2 600	7 350	29436E	52.50
	380	115	41	54.9	117	5.0	1 930	4 010	29438M	55.50
260	420	95	32	47.5	148	5.0	1 370	6 080	29352E	51.50
300	480	109	54	54.0	168	5.0	2 280	10 396	29360M	72.60
340	620	170	82	84.0	201	7.5	5 200	19 300	29468M	197.00
360	640	170	61	82.0	210	7.5	5 400	20 400	29472M	219.00
380	600	132	44	63.0	216	6.0	3 340	14 000	29376	140.00
	670	175	65	85.0	230	7.5	6 400	24 500	29476	260.00
400	620	132		64.0	225	6.0	3 295	15 865	29380M	146.00
	710	185		92.3	234	7.5	5 730	25 800	29480M	300.00
440	780	206	74	100.0	260	6.0	765	30 000	29488EMB	393.00

FŁT Ball Bearings Units (cast iron)

Zespoły łożyskowe w oprawach (odlewanych)

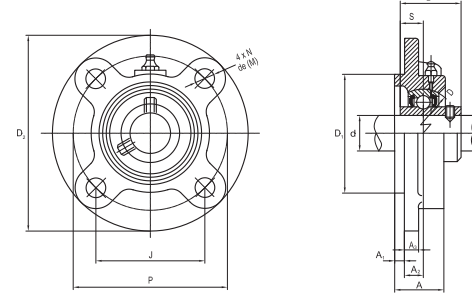
UCF- units with square flange

UCF - oprawy kołnierzowe kwadratowe z łożyskiem



UCFC- units with round flange

UCFC - oprawy kołnierzowe okrągłe z łożyskiem



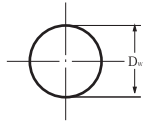
DIMENSIONS WYMIARY GŁÓWNE											MASS MASA ~ kg	DESIGNATION OZNACZENIE	BEARING ŁOŻYSKO	HOUSING OPRAWA	DIMENSIONS WYMIARY GŁÓWNE														MASS MASA ~ kg	DESIGNATION OZNACZENIE	BEARING ŁOŻYSKO	HOUSING OPRAWA																																																																																																																																																																																																																																																																																																									
d	D	B	S	L	J	A	A ₁	A ₂	N	d _e					d	D	B	S	D ₁	D ₂	J	P	A	A ₁	A ₂	A ₃	N	d _e																																																																																																																																																																																																																																																																																																													
mm											kg				mm														kg																																																																																																																																																																																																																																																																																																												
Series : 2															12	47	31.0	12.7	86	64	25.5	11	15	12	M10	0.72	UCFC201	UC201	FC204	15	47	31.0	12.7	86	64	25.5	11	15	12	M10	0.71	UCFC202	UC202	FC204	17	47	31.0	12.7	86	64	25.5	11	15	12	M10	0.70	UCFC203	UC203	FC204	20	47	31.0	12.7	86	64	25.5	11	15	12	M10	0.68	UCFC204	UC204	FC204	25	52	34.1	14.3	70	115	63.6	90	21	6	10	7	12	M10	0.95	UCFC205	UC205	FC205	30	62	38.1	15.9	108	83	31	13	18	12	M10	1.25	UCFC206	UC206	FC206	35	72	42.9	17.5	117	92	34	15	19	14	M12	1.56	UCFC207	UC207	FC207	40	80	49.2	19.0	130	102	36	15	21	16	M14	1.95	UCFC208	UC208	FC208	45	85	49.2	19.0	137	105	38	16	22	16	M14	2.56	UCFC209	UC209	FC209	50	90	51.6	19.0	143	111	40	16	22	16	M14	2.72	UCFC210	UC210	FC210	55	100	55.6	22.2	162	130	43	18	25	19	M16	3.72	UCFC211	UC211	FC211	60	110	65.1	25.4	175	143	48	18	29	19	M16	4.67	UCFC212	UC212	FC212	65	120	65.1	25.4	187	149	50	22	30	19	M16	5.21	UCFC213	UC213	FC213	70	125	74.6	30.2	193	152	54	22	31	19	M16	5.81	UCFC214	UC214	FC214	75	130	77.8	33.3	200	159	56	22	34	19	M16	7.03	UCFC215	UC215	FC215	80	140	82.6	33.3	208	165	58	22	34	23	M20	8.44	UCFC216	UC216	FC216																																																																								
Series : 3															25	62	38	15	110	80	29	13	16	16	M14	1.10	UCF305	UC305	F305	30	72	43	17	125	95	32	15	18	16	M14	1.60	UCF306	UC306	F306	35	80	48	19	135	100	36	16	20	19	M16	2.00	UCF307	UC307	F307	40	90	52	19	150	112	40	17	23	19	M16	2.70	UCF308	UC308	F308	45	100	57	22	160	125	44	18	25	19	M16	3.40	UCF309	UC309	F309	50	110	61	22	175	132	48	19	28	23	M20	4.50	UCF310	UC310	F310	55	120	66	25	185	140	52	20	30	23	M20	5.50	UCF311	UC311	F311	60	130	71	26	195	150	56	22	33	23	M20	6.50	UCF312	UC312	F312	65	140	75	30	208	166	58	22	33	23	M20	7.90	UCF313	UC313	F313	70	150	78	33	226	178	61	25	36	25	M22	9.50	UCF314	UC314	F314	75	160	82	32	236	184	66	25	39	25	M22	12.00	UCF315	UC315	F315	80	170	86	34	250	196	68	27	38	31	M27	14.00	UCF316	UC316	F316	85	180	96	40	260	204	74	27	44	31	M27	16.00	UCF317	UC317	F317	90	190	96	40	280	216	76	30	44	35	M30	19.00	UCF318	UC318	F318	95	200	103	41	290	228	94	30	59	35	M30	22.00	UCF319	UC319	F319	100	215	108	42	310	242	94	31	59	38	M33	26.00	UCF320	UC320	F320	105	225	112	44	310	242	94	31	59	38	M33	27.00	UCF321	UC321	F321	110	240	117	46	340	266	96	35	60	41	M36	38.00	UCF322	UC322	F322	120	260	126	51	370	290	110	40	65	41	M36	50.00	UCF324	UC324	F324	130	280	135	54	410	320	115	45	65	41	M36	66.00	UCF326	UC326	F326	140	300	145	59	450	350	125	55	75	41	M36	90.00	UCF328	UC328	F328

BALLS, NEEDLE ROLLERS



Steel balls

Kulki stalowe

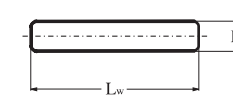


Needle rollers

Igielki



Forme A



Forme B



NOMINAL DIAMETER		MASS PER 1000 BALLS MASA 1000 KULEK
ŚREDNICA NOMINALNA		
D		kg
mm	inch (cal)	
3.969	5/32	0.254
4.500		0.371
4.762	3/16	0.439
5.000		0.509
5.556	7/32	0.698
6.000		0.879
6.350	1/4	1.042
7.000		1.395
7.144	9/32	1.483
7.938	5/16	2.035
8.000		2.083
8.731	11/32	2.708
9.525	3/8	3.516
10.000		4.068
10.319	13/32	4.469
11.112	7/16	5.582
11.509	29/64	6.202
11.906	15/32	6.867
12.000		7.026
12.303	31/64	7.576
12.500		7.946
12.700	1/2	8.333
13.494	17/32	9.996
14.288	9/16	11.870
15.081	19/32	13.960
15.875	5/8	16.280
16.669	21/32	18.840
17.462	11/16	21.662
18.000		23.728
18.256	23/32	24.753
19.050	3/4	28.130
19.844	25/32	31.791
20.000		32.547
20.638	13/16	35.762
21.431	27/32	40.044
22.000		43.319
22.225	7/8	44.662
23.019	29/32	49.680
23.812	15/16	54.929
24.606	31/32	60.609
25.000		63.568
25.400	1	66.670
26.988	1 1/16	79.970
28.575	1 1/8	94.900
30.162	1 3/16	111.600
31.750	1 1/4	130.200

NOMINAL DIAMETER		MASS PER 1000 BALLS MASA 1000 KULEK
ŚREDNICA NOMINALNA		
D		kg
mm	inch (cal)	
33.338	1 5/16	150.700
34.925	1 3/8	173.300
36.512	1 7/16	198.000
38.100	1 1/2	225.000
40.000		260.375
41.275	1 5/8	286.100
42.862	1 11/16	320.359
44.450	1 3/4	357.301
45.000		370.729
47.625	1 7/8	439.465
Big balls only on special order Kulki duże tylko na specjalne zamówienie		
50.800	2	533.348
52.387	2 1/16	584.911
53.975	2 1/8	639.730
57.150	2 1/4	759.396
60.325	2 3/8	893.123
63.500	2 1/2	1 042.000
66.675	2 5/8	1 206.000
69.850	2 3/4	1 386.000
76.200	3	1 800.000
79.375	3 1/8	2 035.000
80.000		2 083.000
90.000		2 966.000
100.000		4 069.000
108.000		5 126.000
110.000		5 416.000
120.000		7 031.000
130.000		8 938.000
150.000		13 733.000
180.000		23 727.000
200.000		32 547.000
250.000		63 578.000

DESIGNATIONS WYMIARY GŁÓWNE	DIMENSIONS WYMIARY		MASS PER 1000 PCS MASA 1000 KULEK
	D _w	L _w	
	mm		kg
2.0 x 6.8 B	2.0000	6.80	0.166
2.0 x 7.8 A	2.0000	7.80	0.184
2.0 x 8.8 B	2.0000	8.80	0.215
2.0 x 9.05 B	2.0000	9.05	0.221
2.0 x 9.3 A	2.0000	9.30	0.221
2.0 x 9.4 A	2.0000	9.40	0.223
2.0 x 9.8 A	2.0000	9.80	0.233
2.0 x 10.2 A	2.0000	10.20	0.243
2.0 x 10.4 A	2.0000	10.40	0.247
2.0 x 10.8 A	2.0000	10.80	0.257
2.0 x 11.2 A	2.0000	11.20	0.266
2.0 x 11.7 B	2.0000	11.70	0.289
2.0 x 11.8 A	2.0000	11.80	0.282
2.0 x 12.8 A	2.0000	12.80	0.306
2.0 x 13.8 A	2.0000	13.80	0.330
2.0 x 15.8 A	2.0000	15.80	0.379
2.0 x 17.8 A	2.0000	17.80	0.428
2.0 x 19.8 A	2.0000	19.80	0.477
2.5 x 7.8 A	2.5000	7.80	0.281
2.5 x 9.8 A	2.5000	9.80	0.358
2.5 x 9.8 B	2.5000	9.80	0.374
2.5 x 17.8 B	2.5000	17.80	0.679
2.5 x 19.8 A	2.5000	19.80	0.739
3.0 x 13.8 B	3.0000	13.80	0.758
3.5 x 15.8 A	3.5000	15.80	1.140
3.5 x 17.8 A	3.5000	17.80	1.290
3.5 x 19.8 A	3.5000	19.80	1.440
4.0 x 11.8 B	4.0000	11.80	1.152
4.0 x 15 B	4.0000	15.00	1.465
4.0 x 23.8 B	4.0000	23.80	2.324
4.0 x 29.8 B	4.0000	29.80	2.910
4.0 x 32 A	4.0000	32.00	3.065
5.0 x 19.8 B	5.0000	19.80	3.021
5.0 x 23.8 A	5.0000	23.80	3.531
5.0 x 25.8 A	5.0000	25.80	3.836
5.0 x 29.8 A	5.0000	29.80	4.447
6.0 x 17.8 B	6.0000	17.80	3.911
6.0 x 21.8 A	6.0000	21.80	4.578
6.0 x 21.8 B	6.0000	21.80	4.789
6.35 x 21.59 B	6.3500	21.59	5.312

Material carbon chromium steel. | Materiał: stal łożyskowa
 Hardness: 60-66 HRC. | Twardość: 60 + 66 HRC
 Tolerances: grade G10 to G100. | Klasa dokładności: klasa G10 do G100.
 The dimensional and form accuracy to ISO 3290
 Tolerancje i dokładność kształtu wg ISO 3290

Forme A | Odmiana A
 Forme B | Odmiana B
 Material: carbon chromium steel | Materiał: stal łożyskowa
 Hardness: 58-65 HRC (670-840 HV) | Twardość: 58 + 65 HRC (670-840HV)
 Tolerances: grade G2, G3 and G5. | Klasa dokładności: klasa G2, G3 i G5
 The dimensional and form in accordance with ISO 3096 | Tolerancje i dokładność kształtu wg ISO 3096

GENERAL DATA

10 18 0 -12 12 9 0 -120 15 +200 0 +100 0 +100 0
18 30 0 -12 12 9 0 -120 16 +200 0 +100 0 +100 0
30 50 0 -12 12 9 0 -120 17 +200 0 +100 0 +100 0
50 80 0 -15 15 11 9 -150 25 +200 0 +100 0 +100 0
80 120 0 -20 20 18 0 -200 30 +200 -200 +100 -100 +100 -100
120 180 0 -25 25 19 0 -250 35 +350 -250 +150 -150 +200 -100
180 250 0 -30 30 23 0 -300 40 +350 -250 +150 -150 +200 -100
250 315 0 -35 35 28 0 -350 50 +350 -250 +150 -150 +200 -100
315 400 0 -40 40 33 0 -400 70 +350 -400 +200 -200 +200 -200
315 50 +20 -350 +100 -250 +150 -400 +300 -400 +20 -300
50 80 -20 -350 +100 -300 +150 -500 +300 -500 +20 -400
80 120 -25 -300 +150 -800 +200 -500 +400 -500 +25 -600
120 180 +25 -400 +150 -400 +200 -600 +300 -600 +30 -500
180 250 +30 -400 +150 -400 +250 -600 +300 -600 +30 -500
250 315 +40 -400 +200 -400 +350 -700 +600 -700 +40 -700
315 400 +40 -300 +200 -500 +350 -700 +600 -700 +40 -700
400 500 +20 -500 -500 -300 +400 -900 +700 -900 +50 -900
500 600 +50 -600 +350 -600 +500 -1100 +900 -1100 +60 -1200
600 800 +70 -750 -400 -750 +800 -1300 +1100 -1300 +70 -1400
800 1000 +80 -1000 +450 -1000 +700 -1500 +1300 -1500 +80 -1800
03 -12 0 08 0 08 0 012 0 13 0 5 -5 -0 5 0 +0 5 +5
05 -12 0 13 0 13 0 020 0 35 1 0 5 -1 0 +1 +5
08 -23 0 25 0 25 0 025 0 50 1 10 10 -1 0 +1 +9
11 -14 0 30 0 30 0 030 0 70 1 10 -2 0 +2 +10
14 -17 0 35 0 35 0 040 1 100 2 0 -10 -2 0 +2 +10
17 -20 0 40 0 40 0 050 1 140 2 0 -12 -2 0 +2 +12
20 -23 0 45 0 45 0 060 2 180 3 0 -16 -4 0 +4 +16
23 -26 0 50 0 50 0 070 3 240 4 0 -20 -5 0 +5 +20
26 -30 0 55 0 55 0 080 4 300 5 0 -25 -7 0 +7 +25
30 -35 0 60 0 60 0 100 5 400 7 0 -35 -10 0 +10 +40
35 -40 0 65 0 65 0 120 5 500 10 50 -45 -15 0 +15 +60
40 -45 0 70 0 70 0 140 5 600 15 60 -55 -20 0 +20 +80
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55 -60 0 85 0 85 0 200 5 900 30 90 -85 -35 0 +35 +180
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75 -80 0 105 0 105 0 280 5 1300 50 130 -125 -55 0 +55 +500
80 -85 0 110 0 110 0 300 5 1400 55 140 -135 -60 0 +60 +600
85 -90 0 115 0 115 0 320 5 1500 60 150 -145 -65 0 +65 +700
90 -95 0 120 0 120 0 340 5 1600 65 160 -155 -70 0 +70 +800
95 -100 0 125 0 125 0 360 5 1700 70 170 -165 -75 0 +75 +900
100 -105 0 130 0 130 0 380 5 1800 75 180 -175 -80 0 +80 +1000
105 -110 0 135 0 135 0 400 5 1900 80 190 -185 -85 0 +85 +1100
110 -115 0 140 0 140 0 420 5 2000 85 200 -195 -90 0 +90 +1200
115 -120 0 145 0 145 0 440 5 2100 90 210 -205 -95 0 +95 +1300
120 -125 0 150 0 150 0 460 5 2200 95 220 -215 -100 0 +100 +1400
125 -130 0 155 0 155 0 480 5 2300 100 230 -225 -105 0 +105 +1500
130 -135 0 160 0 160 0 500 5 2400 105 240 -235 -110 0 +110 +1600
135 -140 0 165 0 165 0 520 5 2500 110 250 -245 -115 0 +115 +1700
140 -145 0 170 0 170 0 540 5 2600 115 260 -255 -120 0 +120 +1800
145 -150 0 175 0 175 0 560 5 2700 120 270 -265 -125 0 +125 +1900
150 -155 0 180 0 180 0 580 5 2800 125 280 -275 -130 0 +130 +2000
155 -160 0 185 0 185 0 600 5 2900 130 290 -285 -135 0 +135 +2100
160 -165 0 190 0 190 0 620 5 3000 135 300 -295 -140 0 +140 +2200
165 -170 0 195 0 195 0 640 5 3100 140 310 -305 -145 0 +145 +2300
170 -175 0 200 0 200 0 660 5 3200 145 320 -315 -150 0 +150 +2400
175 -180 0 205 0 205 0 680 5 3300 150 330 -325 -155 0 +155 +2500
180 -185 0 210 0 210 0 700 5 3400 155 340 -335 -160 0 +160 +2600
185 -190 0 215 0 215 0 720 5 3500 160 350 -345 -165 0 +165 +2700
190 -195 0 220 0 220 0 740 5 3600 165 360 -355 -170 0 +170 +2800
195 -200 0 225 0 225 0 760 5 3700 170 370 -365 -175 0 +175 +2900
200 -205 0 230 0 230 0 780 5 3800 175 380 -375 -180 0 +180 +3000
205 -210 0 235 0 235 0 800 5 3900 180 390 -385 -185 0 +185 +3100
210 -215 0 240 0 240 0 820 5 4000 185 400 -395 -190 0 +190 +3200
215 -220 0 245 0 245 0 840 5 4100 190 410 -405 -195 0 +195 +3300
220 -225 0 250 0 250 0 860 5 4200 195 420 -415 -200 0 +200 +3400
225 -230 0 255 0 255 0 880 5 4300 200 430 -425 -205 0 +205 +3500
230 -235 0 260 0 260 0 900 5 4400 205 440 -435 -210 0 +210 +3600
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240 -245 0 270 0 270 0 940 5 4600 215 460 -455 -220 0 +220 +3800
245 -250 0 275 0 275 0 960 5 4700 220 470 -465 -225 0 +225 +3900
250 -255 0 280 0 280 0 980 5 4800 225 480 -475 -230 0 +230 +4000
255 -260 0 285 0 285 0 1000 5 4900 230 490 -485 -235 0 +235 +4100
260 -265 0 290 0 290 0 1020 5 5000 235 500 -495 -240 0 +240 +4200
265 -270 0 295 0 295 0 1040 5 5100 240 510 -505 -245 0 +245 +4300
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275 -280 0 305 0 305 0 1080 5 5300 250 530 -525 -255 0 +255 +4500
280 -285 0 310 0 310 0 1100 5 5400 255 540 -535 -260 0 +260 +4600
285 -290 0 315 0 315 0 1120 5 5500 260 550 -545 -265 0 +265 +4700
290 -295 0 320 0 320 0 1140 5 5600 265 560 -555 -270 0 +270 +4800
295 -300 0 325 0 325 0 1160 5 5700 270 570 -565 -275 0 +275 +4900
300 -305 0 330 0 330 0 1180 5 5800 275 580 -575 -280 0 +280 +5000
305 -310 0 335 0 335 0 1200 5 5900 280 590 -585 -285 0 +285 +5100
310 -315 0 340 0 340 0 1220 5 6000 285 600 -595 -290 0 +290 +5200
315 -320 0 345 0 345 0 1240 5 6100 290 610 -605 -295 0 +295 +5300
320 -325 0 350 0 350 0 1260 5 6200 295 620 -615 -300 0 +300 +5400
325 -330 0 355 0 355 0 1280 5 6300 300 630 -625 -305 0 +305 +5500
330 -335 0 360 0 360 0 1300 5 6400 305 640 -635 -310 0 +310 +5600
335 -340 0 365 0 365 0 1320 5 6500 310 650 -645 -315 0 +315 +5700
340 -345 0 370 0 370 0 1340 5 6600 315 660 -655 -320 0 +320 +5800
345 -350 0 375 0 375 0 1360 5 6700 320 670 -665 -325 0 +325 +5900
350 -355 0 380 0 380 0 1380 5 6800 325 680 -675 -330 0 +330 +6000
355 -360 0 385 0 385 0 1400 5 6900 330 690 -685 -335 0 +335 +6100
360 -365 0 390 0 390 0 1420 5 7000 335 700 -695 -340 0 +340 +6200
365 -370 0 395 0 395 0 1440 5 7100 340 710 -705 -345 0 +345 +6300
370 -375 0 400 0 400 0 1460 5 7200 345 720 -715 -350 0 +350 +6400
375 -380 0 405 0 405 0 1480 5 7300 350 730 -725 -355 0 +355 +6500
380 -385 0 410 0 410 0 1500 5 7400 355 740 -735 -360 0 +360 +6600
385 -390 0 415 0 415 0 1520 5 7500 360 750 -745 -365 0 +365 +6700
390 -395 0 420 0 420 0 1540 5 7600 365 760 -755 -370 0 +370 +6800
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400 -405 0 430 0 430 0 1580 5 7800 375 780 -775 -380 0 +380 +7000
405 -410 0 435 0 435 0 1600 5 7900 380 790 -785 -385 0 +385 +7100
410 -415 0 440 0 440 0 1620 5 8000 385 800 -795 -390 0 +390 +7200
415 -420 0 445 0 445 0 1640 5 8100 390 810 -805 -395 0 +395 +7300
420 -425 0 450 0 450 0 1660 5 8200 395 820 -815 -400 0 +400 +7400
425 -430 0 455 0 455 0 1680 5 8300 400 830 -825 -405 0 +405 +7500
430 -435 0 460 0 460 0 1700 5 8400 405 840 -835 -410 0 +410 +7600
435 -440 0 465 0 465 0 1720 5 8500 410 850 -845 -415 0 +415 +7700
440 -445 0 470 0 470 0 1740 5 8600 415 860 -855 -420 0 +420 +7800
445 -450 0 475 0 475 0 1760 5 8700 420 870 -865 -425 0 +425 +7900
450 -455 0 480 0 480 0 1780 5 8800 425 880 -875 -430 0 +430 +8000
455 -460 0 485 0 485 0 1800 5 8900 430 890 -885 -435 0 +435 +8100
460 -465 0 490 0 490 0 1820 5 9000 435 900 -895 -440 0 +440 +8200
465 -470 0 495 0 495 0 1840 5 9100 440 910 -905 -445 0 +445 +8300
470 -475 0 500 0 500 0 1860 5 9200 445 920 -915 -450 0 +450 +8400
475 -480 0 505 0 505 0 1880 5 9300 450 930 -925 -455 0 +455 +8500
480 -485 0 510 0 510 0 1900 5 9400 455 940 -935 -460 0 +460 +8600
485 -490 0 515 0 515 0 1920 5 9500 460 950 -945 -465 0 +465 +8700
490 -495 0 520 0 520 0 1940 5 9600 465 960 -955 -470 0 +470 +8800
495 -500 0 525 0 525 0 1960 5 9700 470 970 -965 -475 0 +475 +8900
500 -505 0 530 0 530 0 1980 5 9800 475 980 -975 -480 0 +480 +9000
505 -510 0 535 0 535 0 2000 5 9900 480 990 -985 -485 0 +485 +9100
510 -515 0 540 0 540 0 2020 5 10000 485 1000 -995 -490 0 +490 +9200
515 -520 0 545 0 545 0 2040 5 10100 490 1010 -1005 -495 0 +495 +9300
520 -525 0 550 0 550 0 2060 5 10200 495 1020 -1015 -500 0 +500 +9400
525 -530 0 555 0 555 0 2080 5 10300 500 1030 -1025 -505 0 +505 +9500
530 -535 0 560 0 560 0 2100 5 10400 505 1040 -1035 -510 0 +510 +9600
535 -540 0 565 0 565 0 2120 5 10500 510 1050 -1045 -515 0 +515 +9700
540 -545 0 570 0 570 0 2140 5 10600 515 1060 -1055 -520 0 +520 +9800
545 -550 0 575 0 575 0 2160 5 10700 520 1070 -1065 -525 0 +525 +9900
550 -555 0 580 0 580 0 2180 5 10800 525 1080 -1075 -530 0 +530 +10000
555 -560 0 585 0 585 0 2200 5 10900 530 1090 -1085 -535 0 +535 +10100
560 -565 0 590 0 590 0 2220 5 11000 535 1100 -1095 -540 0 +540 +10200
565 -570 0 595 0 595 0 2240 5 11100 540 1110 -1105 -545 0 +545 +10300
570 -575 0 600 0 600 0 2260 5 11200 545 1120 -1115 -550 0 +550 +10400
575 -580 0 605 0 605 0 2280 5 11300 550 1130 -1125 -555 0 +555 +10500
580 -585 0 610 0 610 0 2300 5 11400 555 1140 -1135 -560 0 +560 +10600
585 -590 0 615 0 615 0 2320 5 11500 560 1150 -1145 -565 0 +565 +10700
590 -595 0 620 0 620 0 2340 5 11600 565 1160 -1155 -570 0 +570 +10800
595 -600 0 625 0 625 0 2360 5 11700 570 1170 -1165 -575 0 +575 +10900
600 -605 0 630 0 630 0 2380 5 11800 575 1180 -1175 -580 0 +580 +11000
605 -610 0 635 0 635 0 2400 5 11900 580 1190 -1185 -585 0 +585 +11100
610 -615 0 640 0 640 0 2420 5 12000 585 1200 -1195 -590 0 +590 +11200
615 -620 0 645 0 645 0 2440 5 12100 590 1210 -1205 -595 0 +595 +11300
620 -625 0 650 0 650 0 2460 5 12200 595 1220 -1215 -600 0 +600 +11400
625 -630 0 655 0 655 0 2480 5 12300 600 1230 -1225 -605 0 +605 +11500
630 -635 0 660 0 660 0 2500 5 12400 605 1240 -1235 -610 0 +610 +11600
635 -640 0 665 0 665 0 2520 5 12500 610 1250 -1245 -615 0 +615 +11700
640 -645 0 670 0 670 0 2540 5 12600 615 1260 -1255 -620 0 +620 +11800
645 -650 0 675 0 675 0 2560 5 12700 620 1270 -1265 -625 0 +625 +11900
650 -655 0 680 0 680 0 2580 5 12800 625 1280 -1275 -630 0 +630 +12000
655 -660 0 685 0 685 0 2600 5 12900 630 1290 -1285 -635 0 +635 +12100
660 -665 0 690 0 690 0 2620 5 13000 635 1300 -1295 -640 0 +640 +12200
665 -670 0 695 0 695 0 2640 5 13100 640 1310 -1305 -645 0 +645 +12300
670 -675 0 700 0 700 0 2660 5 13200 645 1320 -1315 -650 0 +650 +12400
675 -680 0 705 0 705 0 2680 5 13300 650 1330 -1325 -655 0 +655 +12500
680 -685 0 710 0 710 0 2700 5 13400 655 1340 -1335 -660 0 +660 +12600
685 -690 0 715 0 715 0 2720 5 13500 660 1350 -1345 -665 0 +665 +12700
690 -695 0 720 0 720 0 2740 5 13600 665 1360 -1355 -670 0 +670 +12800
695 -700 0 725 0 725 0 2760 5 13700 670 1370 -1365 -675 0 +675 +12900
700 -705 0 730 0 730 0 2780 5 13800 675 1380 -1375 -680 0 +680 +13000
705 -710 0 735 0 735 0 2800 5 13900 680 1390 -1385 -685 0 +685 +13100
710 -715 0 740 0 740 0 2820 5 14000 685 1400 -1395 -690 0 +690 +13200
715 -720 0 745 0 745 0 2840 5 14100 690 1410 -1405 -695 0 +695 +13300
720 -725 0 750 0 750 0 2860 5 14200 695 1420 -1415 -700 0 +700 +13400
725 -730 0 755 0 755 0 2880 5 14300 700 1430 -1425 -705 0 +705 +13500
730 -735 0 760 0 760 0 2900 5 14400 705 1440 -1435 -710 0 +710 +13600
735 -740 0 765 0 765 0 2920 5 14500 710 1450 -1445 -715 0 +715 +13700
740 -745 0 770 0 770 0 2940 5 14600 715 1460 -1455 -720 0 +720 +13800
745 -750 0 775 0 775 0 2960 5 14700 720 1470 -1465 -725 0 +725 +13900
750 -755 0 780 0 780 0 2980 5 14800 725 1480 -1475 -730 0 +730 +14000
755 -760 0 785 0 785 0 3000 5 14900 730 1490 -1485 -735 0 +735 +14100
760 -765 0 790 0 790 0 3020 5 15000 735 1500 -1495 -740 0 +740 +14200
765 -770 0 795 0 795 0 3040 5 15100 740 1510 -1505 -745 0 +745 +14300
770 -775 0 800 0 800 0 3060 5 15200 745 1520 -1515 -750 0 +750 +14400
775 -780 0 805 0 805 0 3080 5 15300 750 1530 -1525 -755 0 +755 +14500
780 -785 0 810 0 810 0 3100 5 15400 755 1540 -1535 -760 0 +760 +14600
785 -790 0 815 0 815 0 3120 5 15500 760 1550 -1545 -765 0 +765 +14700
790 -795 0 820 0 820 0 3140 5 15600 765 1560 -1555 -770 0 +770 +14800
795 -800 0 825 0 825 0 3160 5 15700 770 1570 -1565 -775 0 +775 +14900
800 -805 0 830 0 830 0 3180 5 15800 775 1580 -1575 -780 0 +780 +15000
805 -810 0 835 0 835 0 3200 5 15900 780 1590 -1585 -785 0 +785 +15100
810 -815 0 840 0 840 0 3220 5 16000 785 1600 -1595 -790 0 +790 +15200
815 -820 0 845 0 845 0 3240 5 16100 790 1610 -1605 -795 0 +795 +15300
820 -825 0 850 0 850 0 3260 5 16200 795 1620 -1615 -800 0 +800 +15400
825 -830 0 855 0 855 0 3280 5 16300 800 1630 -1625 -805 0 +805 +15500
830 -835 0 860 0 860 0 3300 5 16400 805 1640 -1635 -810 0 +810 +15600
835 -840 0 865 0 865 0 3320 5 16500 810 1650 -1645 -815 0 +815 +15700
840 -845 0 870 0 870 0 3340 5 16600 815 1660 -1655 -820 0 +820 +15800
845 -850 0 875 0 875 0 3360 5 16700 820 1670 -1665 -825 0 +825 +15900
850 -855 0 880 0 880 0 3380 5 16800 825 1680 -1675 -830 0 +830 +16000
855 -860 0 885 0 885 0 3400 5 16900 830 1690 -1685 -835 0 +835 +16100
860 -865 0 890 0 890 0 3420 5 17000 835 1700 -1695 -840 0 +840 +16200
865 -870 0 895 0 895 0 3440 5 17100 840 1710 -1705 -845 0 +845 +16300
870 -875 0 900 0 900 0 3460 5 17200 845 1720 -1715 -850 0 +850 +16400
875 -880 0 905 0 905 0 3480 5 17300 850 1730 -1725 -855 0 +855 +16500
880 -885 0 910 0 910 0 3500 5 17400 855 1740 -1735 -860 0 +860 +16600
885 -890 0 915 0 915 0 3520 5 17500 860 1750 -1745 -865 0 +865 +16700
890 -895 0 920 0 920 0 3540 5 17600 865 1760 -1755 -870 0 +870 +16800
895 -900 0 925 0 925 0 3560 5 17700 870 1770 -1765 -875 0 +875 +16900
900 -905 0 930 0 930 0 3580 5 17800 87

d	średnica nominalna otworu
D	średnica nominalna zewnętrzna
Vdsp	rozrzut średnicy otworu w jednej płaszczyźnie promieniowej
VDsp	rozrzut średnicy zewnętrznej w jednej płaszczyźnie promieniowej
Vdmp	rozrzut średnicy średniej otworu
VDmp	rozrzut średnicy średniej zewnętrznej
VCs	rozrzut szerokości pojedynczej pierścienia zewnętrznego
VBs	rozrzut szerokości pojedynczej pierścienia wewnętrznego
Δdmp	odchyłka średnicy średniej otworu w płaszczyźnie promieniowej
ΔDmp	odchyłka średnicy średniej zewnętrznej w płaszczyźnie promieniowej
ΔCs	odchyłka szerokości pojedynczej pierścienia zewnętrznego
ΔBs	odchyłka szerokości pojedynczej pierścienia wewnętrznego
Kea	odchyłka bicia promieniowego pierścienia zewnętrznego kompletnego łożyska poprzecznego
Kia	odchyłka bicia promieniowego pierścienia wewnętrznego kompletnego łożyska poprzecznego
Si	rozrzut grubości pierścienia wewnętrznego od środka bieżni do czoła (łożyska wzdłużne)
Se	rozrzut grubości pierścienia zewnętrznego od środka bieżni do czoła (łożyska wzdłużne)
ΔTs	odchyłka szerokości łożyska
ΔT1s	odchyłka szerokości montażowej podzespołu wewnętrznego łożyska stożkowego
ΔT2s	odchyłka szerokości montażowej podzespołu zewnętrznego łożyska stożkowego

d	nominal bore diameter
D	nominal outside diameter
Vdsp	variation of bore diameter in a single radial plane
VDsp	variation of outside diameter in a single radial plane
Vdmp	variation of mean bore diameter
VDmp	variation of mean outside diameter
VCs	variation of outer ring width
VBs	Variation of inner ring width
Δdmp	deviation of mean bore diameter in a single plane
ΔDmp	deviation of mean outside diameter in a single plane
ΔCs	deviation of a single outer ring width
ΔBs	deviation of a single inner ring width
Kea	radial runout of outer ring of assembled bearing
Kia	radial runout of inner ring of assembled bearing
Si	thickness variation from middle of the raceway to back face shaft washer (thrust bearing)
Se	thickness variation from middle of the raceway to back face housing washer (thrust bearing)
ΔTs	deviation of the actual (assembled) bearing width
ΔT1s	deviation of the actual assembly width of tapered bearing internal components
ΔT2s	deviation of the actual effective width of outer ring

Bearings tolerances - Normal tolerances for radial (except taper roller bearings)

Tolerancje wymiarów głównych. Klasa dokładności normalna P0 dla łożysk poprzecznych (z wyjątkiem łożysk stożkowych)



Bearings tolerances - Class P6 tolerances for radial bearings (except taper roller bearings)

Tolerancje wymiarów głównych. Klasa dokładności P6 dla łożysk poprzecznych (z wyjątkiem łożysk stożkowych)

Inner ring

Pierścienie wewnętrzne

Inner ring

Pierścienie wewnętrzne

d		Δd_{mp}		V _{dsp}			V _{dmp}	ΔB_s		V _{Bs}	K _{ia}	d		Δd_{mp}		V _{dsp}			V _{dmp}	ΔB_s		V _{Bs}	K _{ia}
				DIAMETER SERIES SERIA ŚREDNIC												DIAMETER SERIES SERIA ŚREDNIC							
				8.9	0.1	2.3.4										8.9	0.1	2.3.4					
over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max	max	max	max	high odchyl. górna	low odchyl. dolna	max	max	over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max	max	max	max	high odchyl. górna	low odchyl. dolna	max	max
mm		μm		μm	μm	μm	μm	μm	μm	μm	μm	mm		μm		μm	μm	μm	μm	μm	μm	μm	μm
2.5	10	0	-8	10	8	6	6	0	-120	15	10	3	10	0	-7	9	7	5	5	0	-120	15	6
10	18	0	-8	10	8	6	6	0	-120	20	10	10	18	0	-7	9	7	5	5	0	-120	20	7
18	30	0	-10	13	10	8	8	0	-120	20	13	18	30	0	-8	10	8	6	6	0	-120	20	8
30	50	0	-12	15	12	9	9	0	-120	20	15	30	50	0	-10	13	10	8	8	0	-120	20	10
50	80	0	-15	19	19	11	11	0	-150	25	20	50	80	0	-12	15	15	9	9	0	-150	25	10
80	120	0	-20	25	25	15	15	0	-200	25	25	80	120	0	-15	19	19	11	11	0	-200	25	13
120	180	0	-25	31	31	19	19	0	-250	30	30	120	180	0	-18	23	23	14	14	0	-250	30	18
150	250	0	-30	38	38	23	23	0	-300	30	40	180	250	0	-22	28	28	17	17	0	-300	30	20
250	315	0	-35	44	44	26	26	0	-350	35	50	250	315	0	-25	31	31	19	19	0	-350	35	25
315	400	0	-40	50	50	30	30	0	-400	40	60	315	400	0	-30	38	38	23	23	0	-400	40	30
400	500	0	-45	56	56	34	34	0	-450	50	65												
500	630	0	-50	63	63	38	38	0	-500	60	70												
630	800	0	-75	-	-	-	-	0	-750	70	80												
800	1000	0	-100	-	-	-	-	0	-1000	80	90												

Outer ring

Pierścienie zewnętrzne

Outer ring

Pierścienie zewnętrzne

D		ΔD_{mp}		V _{Dsp}			BEARINGS WITH SHIELDS OR SEALS* ŁOŻYSKA ZAKRYTE	V _{Dmp}	ΔC_s	V _{Cs}	K _{ea}	D		ΔD_{mp}		V _{Dsp}			BEARINGS WITH SHIELDS OR SEALS* ŁOŻYSKA ZAKRYTE	V _{Dmp}	ΔC_s	V _{Cs}	K _{ea}
				DIAMETER SERIES SERIA ŚREDNIC												DIAMETER SERIES SERIA ŚREDNIC							
				8.9	0.1	2.3.4										8.9	0.1	2.3.4					
over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max	max	max	max	max	max	max	max	over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max	max	max	max	max	max	max	max
mm		μm		μm	μm	μm	μm	μm	μm	μm	μm	mm		μm		μm	μm	μm	μm	μm	μm	μm	μm
6	18	0	-8	10	8	6	10	6	15	6	15	6	18	0	-7	9	7	5	9	5	values are identical to those for inner ring of the same bearing (ΔB_s , V _{Bs})	8	
18	30	0	-9	12	9	7	12	7	15	7	15	18	30	0	-8	10	8	6	10	6	values are identical to those for inner ring of the same bearing (ΔB_s , V _{Bs})	9	
30	50	0	-11	14	11	8	16	8	20	8	20	30	50	0	-9	11	9	7	13	7	values are identical to those for inner ring of the same bearing (ΔB_s , V _{Bs})	10	
50	80	0	-13	16	13	10	20	10	25	10	25	50	80	0	-11	14	11	8	16	8	values are identical to those for inner ring of the same bearing (ΔB_s , V _{Bs})	13	
80	120	0	-15	19	19	11	26	11	35	11	35	80	120	0	-13	16	16	10	20	10	values are identical to those for inner ring of the same bearing (ΔB_s , V _{Bs})	18	
120	150	0	-18	23	23	14	30	14	40	14	40	120	150	0	-15	19	19	11	25	11	wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔB_s , V _{Bs})	20	
150	180	0	-25	31	31	19	38	19	45	19	45	150	180	0	-18	23	23	14	30	14	wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔB_s , V _{Bs})	23	
180	250	0	-30	38	38	23	-	23	50	23	50	180	250	0	-20	25	25	15	-	15	wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔB_s , V _{Bs})	25	
250	315	0	-35	44	44	26	-	26	60	26	60	250	315	0	-25	31	31	19	-	19	wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔB_s , V _{Bs})	30	
315	400	0	-40	50	50	30	-	30	70	30	70	315	400	0	-28	35	35	21	-	21	wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔB_s , V _{Bs})	35	
400	500	0	-45	56	56	34	-	34	80	34	80	400	500	0	-33	41	41	25	-	25	wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔB_s , V _{Bs})	40	
500	630	0	-50	63	63	38	-	38	100	38	100												
630	800	0	-75	94	94	55	-	55	120	55	120												
800	1 000	0	-100	125	125	75	-	75	140	75	140												
1 000	1 250	0	-125	-	-	-	-	-	160	-	160												

* Applies only to bearings of diameter series 2,3,4. | * Dotyczy łożysk serii średnic 2,3,4.

* Applies only to bearings of diameter series 2,3,4. | * Dotyczy łożysk serii średnic 2,3,4.

Bearings tolerances - Normal tolerances for taper roller bearings (metric size)

Tolerancje wymiarów głównych. Klasa dokładności normalna P0 dla łożysk stożkowych (wymiary metryczne)

Inner ring and bearing width

Pierścienie wewnętrzne i szerokość łożysk

d		Δd_{mp}		Vd _{sp}	Vd _{mp}	ΔB_s		K _{ia}	ΔT_s		ΔT_{1s}		ΔT_{2s}	
over powyżej	incl. włącznie	high odchylt. górna	low odchylt. dolna	max	max	high odchylt. górna	low odchylt. dolna	max	high odchylt. górna	low odchylt. dolna	high odchylt. górna	low odchylt. dolna	high odchylt. górna	low odchylt. dolna
mm		μm		μm	μm	μm		μm	μm		μm		μm	
10	18	0	-12	12	9	0	-120	15	+200	0	+100	0	+100	0
18	30	0	-12	12	9	0	-120	18	+200	0	+100	0	+100	0
30	50	0	-12	12	9	0	-120	20	+200	0	+100	0	+100	0
50	80	0	-15	15	11	0	-150	25	+200	0	+100	0	+100	0
80	120	0	-20	20	15	0	-200	30	+200	-200	+100	-100	+100	-100
120	180	0	-25	25	19	0	-250	35	+350	-250	+150	-150	+200	-100
180	250	0	-30	30	23	0	-300	50	+350	-250	+150	-150	+200	-100
250	315	0	-35	35	26	0	-350	60	+350	-250	+150	-150	+200	-100
315	400	0	-40	40	30	0	-400	70	+350	-400	+200	-200	+200	-200

Bearings tolerances

- Class P6X tolerances for taper roller bearings (metric size)

Tolerancje wymiarów głównych. Klasa dokładności P6X dla łożysk stożkowych (wymiary metryczne)

d		ΔB_s		ΔC_s		ΔT_s		ΔT_{1s}		ΔT_{2s}	
over powyżej	incl. włącznie	high odchylt. górna	low odchylt. dolna	high odchylt. górna	low odchylt. dolna	high odchylt. górna	low odchylt. dolna	high odchylt. górna	low odchylt. dolna	high odchylt. górna	low odchylt. dolna
mm		μm		μm		μm		μm		μm	
10	18	0	-50	0	-100	+100	0	+50	0	+50	0
18	30	0	-50	0	-100	+100	0	+50	0	+50	0
30	50	0	-50	0	-100	+100	0	+50	0	+50	0
50	80	0	-50	0	-100	+100	0	+50	0	+50	0
80	120	0	-50	0	-100	+100	0	+50	0	+50	0
120	180	0	-50	0	-100	+150	0	+50	0	+100	0
180	250	0	-50	0	-100	+150	0	+50	0	+100	0
250	315	0	-50	0	-100	+200	0	+100	0	+100	0
315	400	0	-50	0	-100	+200	0	+100	0	+100	0

For the P6X class bearings, values of deviations for other parameters are the same as in P0 class bearings.

*Dla łożysk klasy P6X wartości odchyłek dla pozostałych parametrów są takie same jak dla łożysk klasy normalnej P0.

Outer ring

Pierścienie zewnętrzne

D		ΔD_{mp}		Vd _{sp}	Vd _{mp}	ΔC_s	K _{ea}
over powyżej	incl. włącznie	high odchylt. górna	low odchylt. dolna	max	max		max
mm		μm		μm	μm	μm	μm
18	30	0	-12	12	9		18
30	50	0	-14	14	11		20
50	80	0	-16	16	12		25
80	120	0	-18	18	14		35
120	150	0	-20	20	15		40
150	180	0	-25	25	19		45
180	250	0	-30	30	23		50
250	315	0	-35	35	26		60
315	400	0	-40	40	30		70
400	500	0	-45	45	34		80
500	630	0	-50	50	38		100

Values are identical to those for inner ring of the same bearing (ΔB_s)

Wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔB_s)

Bearings tolerances

- Tolerances for thrust bearings - Shaft washer

Tolerancje wymiarów głównych dla łożysk wzdłużnych

- Pierścień wewnętrzny

Bearings tolerances

- Tolerances for thrust bearings - Housing washer

Tolerancje wymiarów głównych dla łożysk wzdłużnych

- Pierścień zewnętrzny

d		TOLERANCE CLASS KLASA TOLERANCJI			TOLERANCE CLASS KLASA TOLERANCJI		TOLERANCE CLASS KLASA TOLERANCJI				S _e		
		PO, P6			PO	P6	D		ΔDmp			VDsp	
		over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	Vdsp max powyżej	S _i * max	S _i * max	over powyżej	incl. włącznie		high odchyl. górna	low odchyl. dolna
mm		μm		μm		mm		μm		μm			
	18	0	-8	6	10	5	18	30	0	-13		10	Values are identical to those for inner ring of the same bearing (Si)
18	30	0	-10	8	10	5	30	50	0	-16		12	
30	50	0	-12	9	10	6	50	80	0	-19		14	
50	80	0	-15	11	10	7	80	120	0	-22		17	
80	120	0	-20	15	15	8	120	180	0	-25		19	
120	180	0	-25	19	15	9	180	250	0	-30		23	
180	250	0	-30	23	20	10	250	315	0	-35		26	
250	315	0	-35	26	25	13	315	400	0	-40		30	
315	400	0	-40	30	30	15	400	500	0	-45		34	
400	500	0	-45	34	30	18	500	630	0	-50		38	
500	630	0	-50	38	35	21	630	800	0	-75		55	
630	800	0	-75	-	40	25	800	1000	0	-100		75	
							1000	1250	0	-160		-	

*For double direction bearings, the value for the single direction bearing having the same outside diameter applies
 *Wartości Si dla łożysk dwukierunkowych są identyczne jak dla łożysk jednokierunkowych o tej samej średnicy zewnętrznej

Bearings tolerances - Tolerances for thrust bearings

Tolerancje wymiarów głównych dla łożysk wzdłużnych

Tolerances of hardened carbon-chromium bearing steel balls (ISO 3290)

Klasy dokładności kulek ze stali łożyskowej zgodnie z normą (ISO3290)

Bearings height

Wysokość łożysk

BORE DIAMETER ŚREDNICA OTWORU		HEIGHT TOLERANCES TOLERANCJE WYSOKOŚCI										GRADE KLASA	BALL DIAMETER ŚREDNICA KULKI		TOLERANCES KLASA TOLERANCJI				GAUGE INTERVAL GRUPA SELEKCYJNA	GAUGE MEAN VALUES (deviation range) ZAKRES ODCHYLEK				
d		H		H1		H2		H3		H*			D _w		V _{Dws}	t _{Dw}	R _a	V _{Dwl}	I					
over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	high odchyl. górna	low odchyl. dolna	high odchyl. górna	low odchyl. dolna	high odchyl. górna	low odchyl. dolna	high odchyl. górna	low odchyl. dolna		over powyżej	incl. włącznie	max	max	max	max						
mm		µm		µm		µm		µm		µm			mm		µm				µm	µm				
-	30	+20	-250	+100	-250	+150	-400	+300	-400	+20	-300							0.5	-5...	-0.5	0	+0.5...	+5	
30	50	+20	-250	+100	-250	+150	-400	+300	-400	+20	-300							1.0	-5...	-1	0	+1...	+5	
50	80	+20	-300	+100	-300	+150	-500	+300	-500	+20	-400							1.0	-9...	-1	0	+1...	+9	
80	120	+25	-300	+150	-300	+200	-500	+400	-500	+25	-400							2.0	-10...	-2	0	+2...	+10	
120	180	+25	-400	+150	-400	+200	-600	+400	-600	+25	-500							2.0	-10...	-2	0	+2...	+10	
180	250	+30	-400	+150	-400	+250	-600	+500	-600	+30	-500							2.0	-12...	-2	0	+2...	+12	
250	315	+40	-400	+200	-400	+350	-700	+600	-700	+40	-700							4.0	-16...	-4	0	+4...	+16	
315	400	+40	-500	+200	-500	+350	-700	+600	-700	+40	-700							5.0	-20...	-5	0	+5...	+20	
400	500	+50	-500	+300	-500	+400	-900	+750	-900	+50	-900							5.0	-40...	-10	0	+10...	+40	
500	630	+60	-600	+350	-600	+500	-1100	+900	-1100	+60	-1200							10.0	-60...	-15	0	+15...	+60	
630	800	+70	-750	+400	-750	+600	-1300	+1100	-1300	+70	-1400							15.0						
800	1 000	+80	-1000	+450	-1000	+700	-1500	+1300	-1500	+80	-1800													

H* - concerns spherical thrust bearings | H* - dotyczy łożysk barytkowych wzdłużnych

Internal Clearances

- Radial internal clearance of deep groove ball bearings

Luz wewnętrzny promieniowy łożysk kulkowych zwykłych

Internal Clearances

- Radial internal clearance of self-aligning ball bearings

- Bearings with cylindrical bore.

Luz wewnętrzny promieniowy łożysk kulkowych wahlowych - Łożyska z otworem walcowym.

BORE DIAMETER ŚREDNICA OTWORU		RADIAL INTERNAL CLEARANCE LUZ POPRZECZNY										BORE DIAMETER ŚREDNICA OTWORU		RADIAL INTERNAL CLEARANCE LUZ WEWNĘTRZNY PROMIENIOWY									
d		C2		NORMAL (CO) NORMALNY (CO)		C3		C4		C5		d		C2		NORMAL (CO) NORMALNY (CO)		C3		C4			
over powyżej	incl. włącznie	min	max	min	max	min	max	min	max	min	max	over powyżej	incl. włącznie	min	max	min	max	min	max	min	max		
mm		µm		µm		µm		µm		µm		mm		µm		µm		µm		µm			
3	10	0	7	2	13	8	23	14	29	20	37	3	6	1	8	5	15	10	20	15	25		
10	18	0	9	3	18	11	25	18	33	25	45	6	10	2	9	6	17	12	25	19	33		
18	24	0	10	5	20	13	28	20	36	28	48	10	14	2	10	6	19	13	26	21	35		
24	30	1	11	5	20	13	28	23	41	30	53	14	18	3	12	8	21	15	28	23	37		
30	40	1	11	6	20	15	33	28	46	40	64	18	24	4	14	10	23	17	30	25	39		
40	50	1	11	6	23	18	36	30	51	45	73	24	30	5	16	11	24	19	35	29	46		
50	65	1	15	8	28	23	43	38	61	55	90	30	40	6	18	13	29	23	40	34	53		
65	80	1	15	10	30	25	51	46	71	65	105	40	50	6	19	14	31	25	44	37	57		
80	100	1	18	12	36	30	58	53	84	75	120	50	65	7	21	16	36	30	50	45	69		
100	120	2	20	15	41	36	66	61	97	90	140	65	80	8	24	18	40	35	60	54	83		
120	140	2	23	18	48	41	81	71	114	105	160	80	100	9	27	22	48	42	70	64	96		
140	160	2	23	18	53	46	91	81	130	120	180	100	120	10	31	25	56	50	83	75	114		
160	180	2	25	20	61	53	102	91	147	135	200	120	140	10	38	30	68	60	100	90	135		
180	200	2	30	25	71	63	117	107	163	150	230												
200	225	2	35	25	85	75	140	125	195	175	265												
225	250	2	40	30	95	85	160	145	225	205	300												
250	280	2	45	35	105	90	170	155	245	225	340												
280	315	2	55	40	115	100	190	175	270	245	370												
315	355	3	60	45	125	110	210	195	300	275	410												
355	400	3	70	55	145	130	240	225	340	315	460												
400	450	3	80	60	170	150	270	250	380	350	510												
450	500	3	90	70	190	170	300	280	420	390	570												
500	560	10	100	80	210	190	330	310	470	440	630												
560	630	10	110	90	230	210	360	340	520	490	690												

Internal Clearances

- Radial internal clearance of self-aligning ball bearings
- Bearings with tapered bore

Luz wewnętrzny promieniowy łożysk kulkowych wahlowych - Łożyska z otworem stożkowym.

Internal Clearances

- Radial internal clearance of cylindrical roller bearings

Luz wewnętrzny promieniowy łożysk walcowych

BORE DIAMETER ŚREDNICA OTWORU		RADIAL INTERNAL CLEARANCE LUZ WEWNĘTRZNY PROMIENIOWY								BORE DIAMETER ŚREDNICA OTWORU		RADIAL INTERNAL CLEARANCE LUZ WEWNĘTRZNY PROMIENIOWY							
d		C2		NORMAL (C0) NORMALNY		C3		C4		d		C2		NORMAL (C0) NORMALNY		C3		C4	
over powyżej	incl. włącznie	min	max	min	max	min	max	min	max	over powyżej	incl. włącznie	min	max	min	max	min	max	min	max
mm		µm		µm		µm		µm		mm		µm		µm		µm		µm	
18	24	7	17	13	26	20	33	28	42	-	24	0	25	20	45	35	60	50	75
24	30	9	20	15	28	23	39	33	50	24	30	0	25	20	45	35	60	50	75
30	40	12	24	19	35	29	46	40	59	30	40	5	30	25	50	45	70	60	85
40	50	14	27	22	39	33	52	45	65	40	50	5	35	30	60	50	80	70	100
50	65	18	32	27	47	41	61	56	80	50	65	10	40	40	70	60	90	80	110
65	80	23	39	35	57	50	75	69	98	65	80	10	45	40	75	65	100	90	125
80	100	29	47	42	68	62	90	84	116	80	100	15	50	50	85	75	110	105	140
100	120	35	56	50	81	75	108	100	139	100	120	15	55	50	90	85	125	125	165
										120	140	15	60	60	105	100	145	145	190
										140	160	20	70	70	120	115	165	165	215
										160	180	25	75	75	125	120	170	170	220
										180	200	35	90	90	145	140	195	195	250
										200	225	45	105	105	165	160	220	220	280
										225	250	45	110	110	175	170	235	235	300
										250	280	55	125	125	195	190	260	260	330
										280	315	55	130	130	205	200	275	275	350
										315	355	65	145	145	225	225	305	305	385
										355	400	100	190	190	280	280	370	370	460
										400	450	110	210	210	310	310	410	410	510
										450	500	110	220	220	330	330	440	440	550
										500	560	120	240	240	360	360	480	480	600

Internal Clearances

- Radial internal clearance of spherical roller bearings with cylindrical bore

Luz wewnętrzny promieniowy łożysk baryłkowych z otworem walcowym.

Internal Clearances

- Radial internal clearance of spherical roller bearings with tapered bore

Luz wewnętrzny promieniowy łożysk baryłkowych z otworem stożkowym.

BORE DIAMETER ŚREDNICA OTWORU		RADIAL INTERNAL CLEARANCE LUZ WEWNĘTRZNY PROMIENIOWY										BORE DIAMETER ŚREDNICA OTWORU		RADIAL INTERNAL CLEARANCE LUZ WEWNĘTRZNY PROMIENIOWY									
d		C2		NORMAL (C0) NORMALNY		C3		C4		C5		d		C2		NORMAL (C0) NORMALNY		C3		C4		C5	
over powyżej	incl. włącznie	min	max	min	max	min	max	min	max	min	max	over powyżej	incl. włącznie	min	max	min	max	min	max	min	max	min	max
mm		µm		µm		µm		µm		µm		mm		µm		µm		µm		µm		µm	
18	24	10	20	20	35	35	45	45	60	60	75	24	30	20	30	30	40	40	55	55	75	-	-
24	30	15	25	25	40	40	55	55	75	75	95	30	40	25	35	35	50	50	65	65	85	85	105
30	40	15	30	30	45	45	60	60	80	80	100	40	50	30	45	45	60	60	80	80	100	100	130
40	50	20	35	35	55	55	75	75	100	100	125	50	65	40	55	55	75	75	95	95	120	120	160
50	65	20	40	40	65	65	90	90	120	120	150	65	80	50	70	70	95	95	120	120	150	150	160
65	80	30	50	50	80	80	110	110	145	145	180	80	100	55	80	80	110	110	140	140	180	180	230
80	100	35	60	60	100	100	135	135	180	180	225	100	120	65	100	100	135	135	170	170	220	220	280
100	120	40	75	75	120	120	160	160	210	210	260	120	140	80	120	120	160	160	200	200	260	260	330
120	140	50	95	95	145	145	190	190	240	240	300	140	160	90	130	130	180	180	230	230	300	300	380
140	160	60	110	110	170	170	220	220	280	280	350	160	180	100	140	140	200	200	260	260	340	340	430
160	180	65	120	120	180	180	240	240	310	310	390	180	200	110	160	160	220	220	290	290	370	370	470
180	200	70	130	130	200	200	260	260	340	340	430	200	225	120	180	180	250	250	320	320	410	410	520
200	225	80	140	140	220	220	290	290	380	380	470	225	250	140	200	200	270	270	350	350	450	450	570
225	250	90	150	150	240	240	320	320	420	420	520	250	280	150	220	220	300	300	390	390	490	490	620
250	280	100	170	170	260	260	350	350	460	460	570	280	315	170	240	240	330	330	430	430	540	540	680
280	315	110	190	190	280	280	370	370	500	500	630	315	355	190	270	270	360	360	470	470	590	590	740
315	355	120	200	200	310	310	410	410	550	550	690	355	400	210	300	300	400	400	520	520	650	650	820
355	400	130	220	220	340	340	450	450	600	600	750	400	450	230	330	330	440	440	570	570	720	720	910
400	450	140	240	240	370	370	500	500	660	660	820	450	500	260	370	370	490	490	630	630	790	790	1 000
450	500	140	260	260	410	410	550	550	720	720	900	500	560	290	410	410	540	540	680	680	870	870	1 100
500	560	150	280	280	440	440	600	600	780	780	1 000	560	630	320	460	460	600	600	760	760	980	980	1 230
560	630	170	310	310	480	480	650	650	850	850	1 100	630	710	350	510	510	670	670	850	850	1090	1090	1360
630	710	190	350	350	530	530	700	700	920	920	1 190	710	800	380	570	570	750	750	960	960	1220	1220	1500
710	800	210	390	390	580	580	770	770	1 010	1 010	1 300	800	900	440	640	640	840	840	1070	1070	1370	1370	1690
800	900	230	430	430	650	650	860	860	1120	1120	1440	900	1000	490	710	710	930	930	1190	1190	1520	1520	1860
900	1 000	250	480	460	710	710	930	930	1220	1220	1570												



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