

FLT BEARINGS



TURNING IDEAS



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All factories which are manufactured bearing 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 or 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 ISO 492, ISO 578, ISO 199 and ISO 582. Bearings in standard execution are produced in tolerance class P0.

Internal clearance: Clearance of bearings are consistent with standard ISO 5753. Bearings in standard execution are produced with clearance C0.

Basic load rating: C and Co value rating in catalogue are calculated in accordance with ISO 281 (C-dynamic load rating) and ISO 76 (Co – static load rating)

Basic rating life: L10 – basic rating life should be calculated in accordance with standard ISO 281.

Wszystkie zakłady w których produkowane są łożyska ze znakiem F&T mają certyfikat zgodności z ISO9001 (organizacja produkcji, kontroli, spełnia wymagania normy ISO 9001)

INFORMACJE OGÓLNE

Materiały: Pierścienie łożysk oraz elementy toczne (kulki, waleczki walcowe, waleczki 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, z 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 i 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.

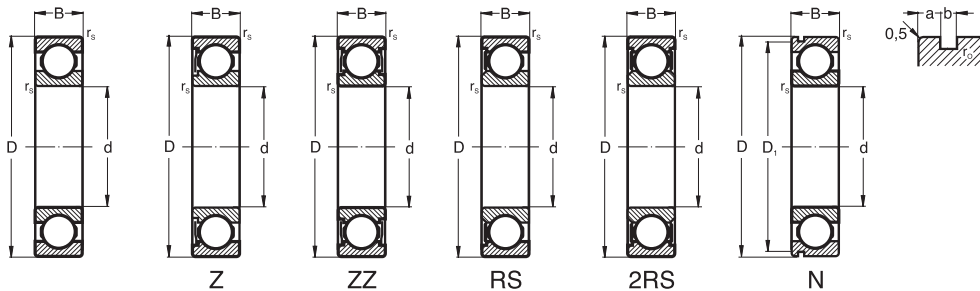
łożyska w wykonaniu standardowym wykonywane są z luzem normalnym C0.

Nośność spoczynkowa i ruchowa: Wartości nośności C i Co podane w katalogu są obliczone wg norm ISO 281 (nośność ruchowa – C) i ISO 76 (nośność spoczynkowa – Co).

Trwałość łożysk „L”: Obliczenia trwałości łożysk L10 powinny być przeprowadzane zgodnie z normą ISO281.

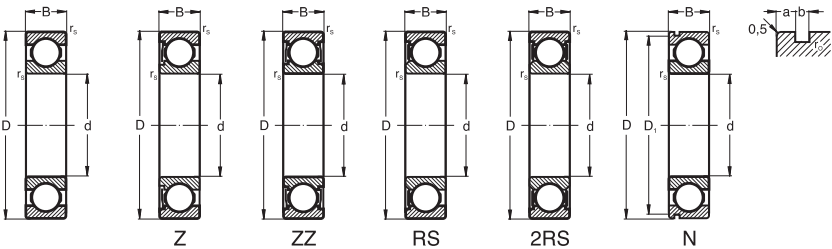
DEEP GROOVE BALL BEARINGS





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 pierścień osadczy
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 ● koszek 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

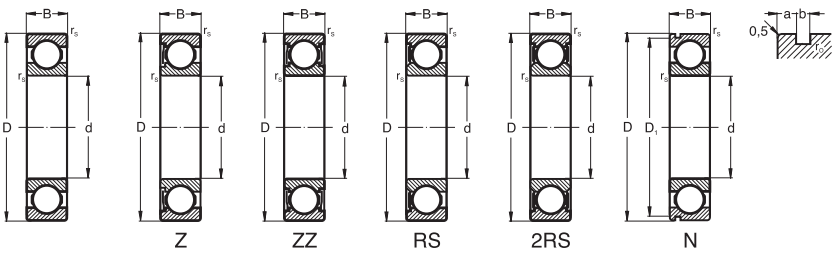
F&T Deep groove ball bearings
łożyska kulkowe zwykłe



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 _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							
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	•	•	•	•		
	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

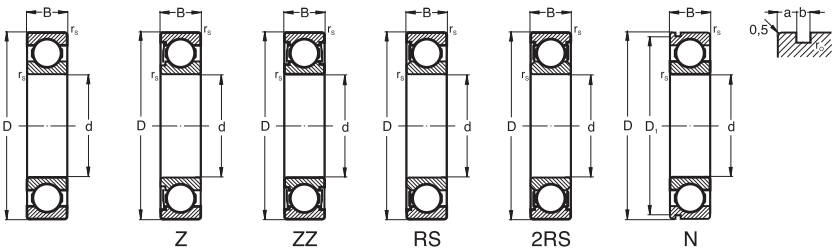
F&T Deep groove ball bearings
łożyska kulkowe zwykłe



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 _i	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						
	68	12	0.6					14.00	10.80	10000	12000	0.130	61909		•				
45	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

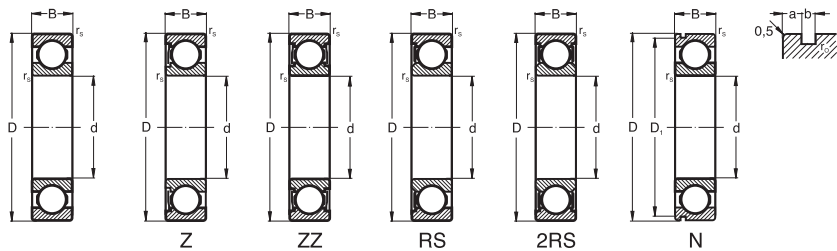
F&T Deep groove ball bearings
łożyska kulkowe zwykłe



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
mm								kN		r/min		kg							
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					•	
	100	10	0.6					12.70	13.30	6000	7100	0.154	61816				•		
80	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					•	
	110	13	1.0					19.30	20.00	5300	6300	0.270	61817						
85	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

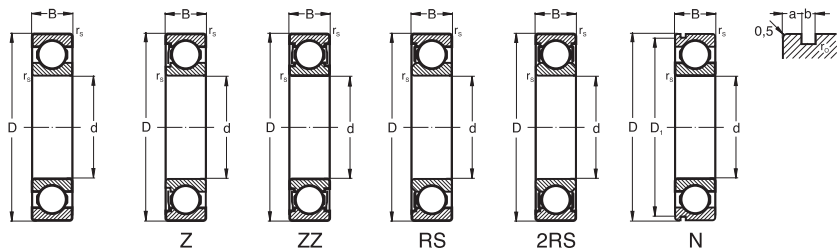
FLT Deep groove ball bearings
łożyska kulkowe zwykłe



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							
90	140	16	1.0					41.50	39.00	4500	5300	0.860	16018						
	140	24	1.5	135.23	3.71	3.10	0.6	58.20	46.60	4800	5600	1.160	6018	•	•			•	
	160	30	2.0	155.22	4.90	3.10	0.6	102.40	75.90	3800	4500	2.150	6218		•		•	•	
	190	43	3.0	183.64	5.69	3.50	0.6	143.00	98.00	3400	4000	4.900	6318		•		•	•	
95	130	18	1.0					33.80	33.50	5300	6300	0.610	61919						
	145	24	1.5	140.23	3.71	3.10	0.6	60.50	53.70	4500	5300	1.210	6019		•			•	
	170	32	2.1	163.65	5.69	3.50	0.6	108.70	81.70	3600	4300	2.620	6219	•		•	•	•	
	200	45	3.0	193.65	5.69	3.50	0.6	153.00	110.00	3200	3800	5.620	6319				•	•	
100	150	16	1.0					35.00	36.50	4200	5000	0.910	16020						
	150	24	1.5	145.24	3.71	3.10	0.6	60.10	54.20	4300	5000	1.250	6020	•		•	•	•	
	180	34	2.1	173.66	5.69	3.50	0.6	122.10	92.70	3400	4000	3.140	6220		•		•	•	
	215	47	3.0					175.00	131.00	3000	3600	7.000	6320		•		•		
105	130	13	1.1					16.30	19.00	5300	6300	0.320	61821						
	160	26	2.0	155.22	3.71	3.10	0.6	72.50	65.50	4000	4800	1.540	6021					•	
	190	36	2.1	183.64	5.69	3.50	0.6	133.00	104.50	3200	3800	3.700	6221				•	•	
	225	49	3.0					173.00	146.00	2800	3400	8.050	6321					•	
110	140	16	1.0					28.10	26.00	4800	5600	0.500	61822			•	•		
	170	19	1.0					57.00	57.00	3800	4500	1.520	16022						
	170	28	2.0	163.65	3.71	3.50	0.6	82.00	72.80	3800	4500	1.960	6022		•			•	
	200	38	2.1	193.65	5.69	3.50	0.6	144.10	117.00	3000	3600	4.360	6222		•			•	
120	240	50	3.0					207.00	167.00	2600	3200	9.540	6322		•				
	165	22	1.1					55.30	57.00	4300	5000	1.200	61924						
	180	19	1.0					63.70	64.00	4000	4800	1.600	16024						
	180	28	2.0	173.66	3.71	3.50	0.6	84.00	61.00	3400	4000	2.070	6024		•			•	
	215	40	2.1					153.00	112.00	2800	3400	5.150	6224						
130	260	55	3.0					217.00	180.00	2400	3000	14.600	6324		•				
	165	18	1.1					39.00	46.50	3350	4000	0.860	61826				•		
	200	22	1.1					78.00	81.50	3200	3800	2.420	16026						
	200	33	2.0	193.65	5.69	3.50	0.6	106.00	78.00	3200	3800	3.700	6026		•		•	•	
	230	40	3.0					168.00	125.00	2600	3200	5.820	6226						
140	280	58	4.0					230.00	193.00	2200	2800	18.200	6326						
	175	18	1.0					39.00	46.50	3400	4000	0.860	61828				•		
	210	22	1.1					63.00	69.00	3000	3600	2.550	16028						
	210	33	2.0					110.00	83.00	3000	3600	3.900	6028			•	•		
	250	42	3.0					177.00	137.00	2400	3000	7.470	6228						
150	300	62	4.0					255.00	224.00	2000	2600	21.800	6328						
	190	20	1.1					48.00	61.00	3200	3800	1.140	61830						
	225	24	1.1					84.00	91.00	2600	3200	3.620	16030						
	225	35	2.1					124.00	98.00	2600	3200	4.800	6030						
	270	45	3.0					190.00	149.00	2000	2600	10.100	6230						
160	320	65	4.0					291.00	255.00	1900	2400	26.200	6330						
	200	20	1.1					52.00	62.00	3000	3600	1.190	61832						
	240	25	1.5					99.50	108.00	2400	3000	3.800	16032						
	240	38	2.1					138.00	105.00	2400	3000	5.890	6032		•				
	290	48	3.0					203.00	164.00	1900	2400	14.300	6232						

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

FLT Deep groove ball bearings
łożyska kulkowe zwykłe



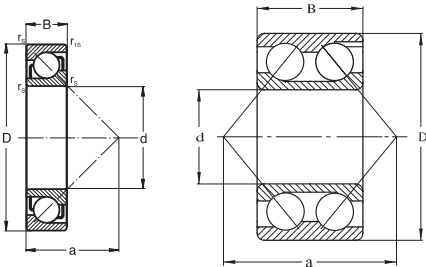
DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	BASIC DESIGNATION OZNACZENIE PODSTAWOWE	MODIFICATION ODMIANY					
d	D	B	r _s	D ₁	a	b	r _i	dynamic dynamiczna C	static statyczna C ₀	grease* w smarze*	oil w oleju	~		Z	ZZ	RS	2RS	N	ZN
mm								kN		r/min		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						
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						
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

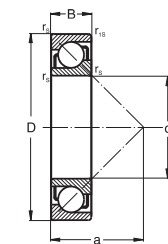


Single and double row | Jedno i dwurzędowe



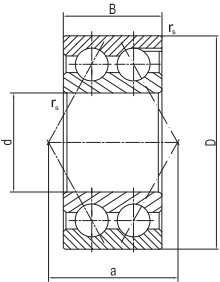
SUFFIX	Characters placed after basic designation Znaki umieszczone za oznaczeniem podstawowym
A	modified internal desing – contact angle 30° ● kąt działania łożyska α = 30°
B	modified internal desing – contact angle 40° ● kąt działania łożyska α = 40°
2RS	rubber seals at both sides of the bearing ● uszczelki 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 OBROTY GRANICZNE		MASS MASA	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE
d	D	B	r _s	r _{1s}	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

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



Four-point contact ball bearings | Dwurzędowe dwukierunkowe czteropunktowe

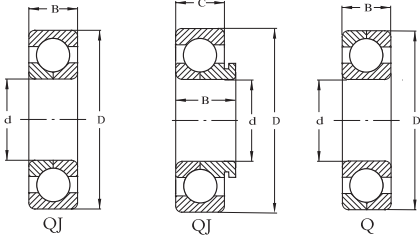


Fig. 1 Fig. 2 Fig. 3

DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS	MODYFICATION		DIMENSIONS			BASIC LOAD RATING		MODIFICATION			BASIC DESIGNATIONS	MASS	FIG No
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE		MASA	OZNACZENIE PODSTAWOWE	ODMIANY		WYMIARY GŁÓWNE			NOŚNOŚĆ		ODMIANY			OZNACZENIE PODSTAWOWE	MASA	NR RYS.
d	D	B	r _s	a	dynamic dynamiczna C	static statyczna C ₀	grease* w smarze	oil w oleju	~		ZZ	2RS	d	D	B/C	dynamic dynamiczna C	static statyczna C ₀	V	MA	FA		~	
mm					kN		r/min		kg		mm			kN								kg	
10	30	14	1.0	19	7.92	5.20	16 000	22 000	0.050	3200	●	●	40	80	22/18	59.0	50.0		●		QJ 208 X	0.45	2
12	32	15.9	1.0	22	9.68	6.40	15 000	20 000	0.060	3201	●	●	45	85	19	61.5	55.0				QJ 209	0.52	1
15	35	15.9	1.0	23	9.13	6.20	13 000	18 000	0.070	3202	●	●		100	25	93.5	77.0		●		QJ 309	1.04	1
	42	19.0	1.0	27	15.10	10.60	10 000	15 000	0.130	3302	●	●	55	120	29	139.0	119.0		●		QJ 311X	0.74	1
17	40	17.5	1.0	27	12.50	9.00	10 000	15 000	0.100	3203	●	●		120	29	139.0	119.0				QBJ 55	1.58	1
	47	22.2	1.0	31	20.90	15.00	9 500	14 000	0.190	3303	●	●	65	100	18	55.0	61.5		●		QJ 1013X	0.51	1
20	47	20.6	1.0	31	17.20	12.70	9 000	13 000	0.170	3204	●	●	130	280	58	444.0	580.0		●		QJ 326	19.50	1
	52	22.2	1.1	34	20.90	15.60	8 500	12 000	0.230	3304	●	●	140	300	62	486.0	2.0		●		QJ 328	24.00	1
25	52	20.6	1.0	35	22.00	13.40	8 000	11 000	0.190	3205	●	●	170	260	42	315.0	453.0		●		QJ 1034	9.50	1
	62	25.4	1.1	41	28.90	26.40	7 500	10 000	0.370	3305	●	●	180	380	75	638.0	1030.0		●		QJ 336	47.50	1
30	62	23.8	1.0	41	27.20	27.00	7 000	9 500	0.320	3206	●	●	220	340	56	431.0	724.0		●		QJ 1044	22.80	1
	72	30.2	1.1	47	44.50	27.00	6 300	8 500	0.590	3306	●			460	88	845.0	1530.0		●		QJ 344	73.00	1
35	72	27.0	1.1	47	34.50	35.30	6 000	8 000	0.480	3207	●	●	260	480	90	493.0	762.0		●		QJ 1252M	28.50	1
	80	34.9	1.5	54	57.00	35.50	5 600	7 500	0.820	3307	●	●	320	580	92	984.0	2139.0				QJ 264 N2M	121.00	1
40	80	30.2	1.1	52	49.00	32.00	5 600	7 500	0.650	3208	●	●	360	540	82	680.0	1490.0		●		QJ 1072	70.00	1
	90	36.5	1.5	58	53.60	56.60	5 000	6 700	0.950	3308	●	●	530	710	82	903.0	2390.0			●	QJ 19/530	105.48	1
45	85	30.2	1.1	56	52.50	36.50	5 000	6 700	0.710	3209	●	●	630	850	100	1150.0	3400.0			●	QJ 19/630	162.00	1
	100	39.7	1.5	65	73.10	79.40	4 500	6 000	1.400	3309	●	●	670	820	69	821.0	2460.0	●			Q 18/670	82.40	3
50	90	30.2	1.1	59	60.00	42.50	4 800	6 300	0.760	3210	●	●	900	1180	122	1610.0	5690.0			●	QJ 19/900	379.40	1
	110	44.4	2.0	73	104.00	72.00	4 000	5 300	1.950	3310	●	●											
55	100	33.3	1.5	64	57.20	54.00	4 300	5 600	1.050	3211	●	●											
	120	49.2	2.0	80	95.20	88.00	3 600	4 800	2.550	3311	●	●											
60	110	36.5	1.5	71	72.10	68.00	3 800	5 000	1.400	3212	●	●											
	130	54.0	2.5	85	112.00	106.00	3 400	4 500	3.250	3312	●	●											
65	120	38.1	1.5	76	78.10	75.00	3 600	4 800	1.750	3213	●	●											
70	125	39.7	2.1	81	78.10	76.50	3 200	4 300	1.900	3214	●	●											
	150	63.5	2.1	109	143.00	166.00	3 000	4 000	4.870	3314													
75	130	41.3	2.1	84	84.20	85.20	3 200	4 300	2.100	3215	●	●											
80	140	44.4	2.1	91	101.00	104.00	2 800	3 800	2.650	3216	●	●											
	170	68.3	2.1	113	176.00	212.00	3 600	4 000	6.950	3316													

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

SELF-ALIGNING BALL BEARINGS



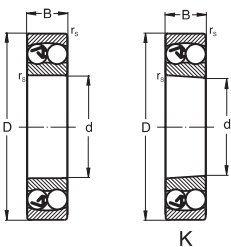
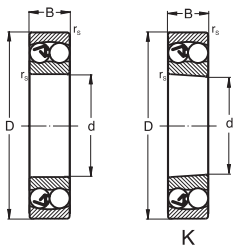
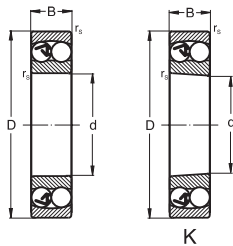


Table with 2 columns: SUFFIX, Characters placed after basic designation. Rows include K (tapered bored), P6 (accuracy), C3 (radial clearance), C4 (radial clearance), and 2RS (rubber seals).

Large table with 10 columns: DIMENSIONS, BASIC LOAD RATING, LIMITING SPEEDS, MASS, BASIC DESIGNATIONS, MODIFICATION. It contains a comprehensive list of bearing models and their specifications.



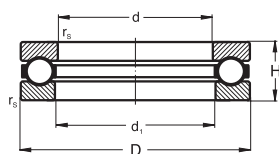
DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS	MODIFICATION
WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTY GRANICZNE		MASA	OZNACZENIE	ODMIANY
d	D	B	r _s	dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju	~	PODSTAWOWE	K 2RS
mm				kN		r/min		kg		
70	125	24	1.5	34.64	13.68	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	●
	170	32	2.1	64.00	27.00	3 600	4 300	3.10	1219	●
95	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	

THRUST
BALL BEARINGS

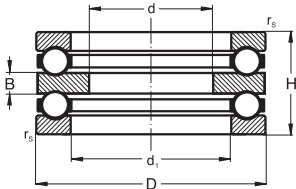


F&T Thrust Ball Bearings
łożyska kulkowe wzdluzne

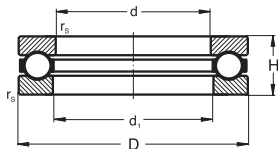
Single direction
Jednokierunkowe



double direction
Dwukierunkowe



Single direction
Jednokierunkowe



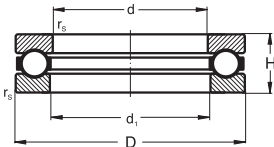
SUFFIX Characters placed after basic designation
Znaki umieszczone za oznaczeniem podstawowym

M	machined brass cage ● koszyk masywny mosiężny
U	bearing with sphered housing washer and aligning seating washer ● łożysko z pierścieniem kulistym i podkładka kulistą

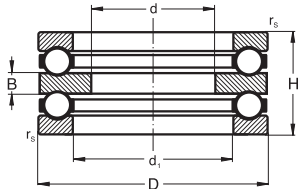
DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE		MASA	
d	d1	D	H	rs	dynamic dynamiczna C	static statyczna C0	grease w smarze	oil w oleju	~	
mm					kN		r/min		kg	
10	11.00	24	9	0.3	10.00	14.0	7 000	9 500	0.020	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	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

DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE		MASA	
d	d1	D	H	rs	dynamic dynamiczna C	static statyczna C0	grease w smarze	oil w oleju	~	
mm					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
75	72.00	125	40	1.1	153.00	275.0	1 200	1 700	2.060	51314
	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
	183.00	225	34	1.1	135.00	431.0	1 000	1 500	3.480	51136
180	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
	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
200	205.00	340	110	4.0	679.00	2 610.0	480	630	43.000	51340

Single direction | Jednokierunkowe



Double direction | Dwukierunkowe

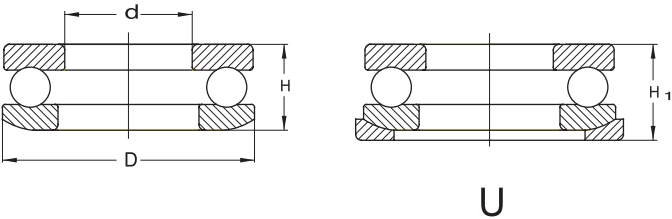


DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	DIMENSIONS							BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE		MASA		WYMIARY GŁÓWNE							NOŚNOŚĆ		OBROTY GRANICZNE		MASA	
d	d1	D	H	rs	dynamic	static	grease	oil	~		d	d1	D	H	B	rs	r1s	dynamic	static	grease	oil	~	
mm					kN		r/min		kg		mm							kN		r/min		kg	
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			52	95	58	14	1.1	0.6	86.4	170.8	1 800	2 600	1.86	
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			57	105	64	15	1.1	0.6	112.5	225.8	1 600	2 200	2.51	
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			62	110	64	15	1.1	0.6	117.0	246.4	1 600	2 200	2.86	
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			67	115	65	15	1.1	0.6	127.0	231.0	1 200	1 700	2.90	
300	304.00	380	62	2.0	406.70	1 801.0	630	850	17.500	51160M		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			72	125	72	16	1.1	1.0	153.0	275.0	1 200	1 700	3.90	
320	304.00	420	95	3.0	580.00	2 680.0	480	630	42.100	51260	60	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			77	135	79	18	1.5	1.0	171.0	319.0	1 100	1 600	4.83	
340	325.00	440	95	3.0	632.00	2 460.0	450	600	44.500	51264M	65	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			82	140	79	18	1.5	1.0	178.0	348.0	1 000	1 500	5.06	
360	364.00	440	65	2.0	430.40	2 111.0	560	750	21.800	51172M	70	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			88	160	87	19	1.5	1.0	190.0	397.0	950	1 400	6.43	
500	505.00	670	135	1.2	1010.00	6800.0	250	350	135.000	512/500	75	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	
											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

F&T Thrust Ball Bearings

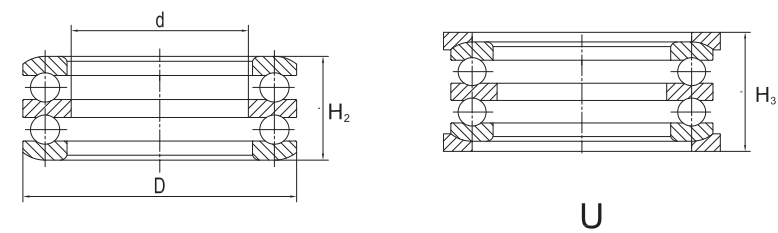
łożyska kulkowe wzdluzne

Single-direction with sphered housing washer and aligning seating
Jednokierukowe z pierścieniem zewnetrznym kulistym i podkładką kulistą



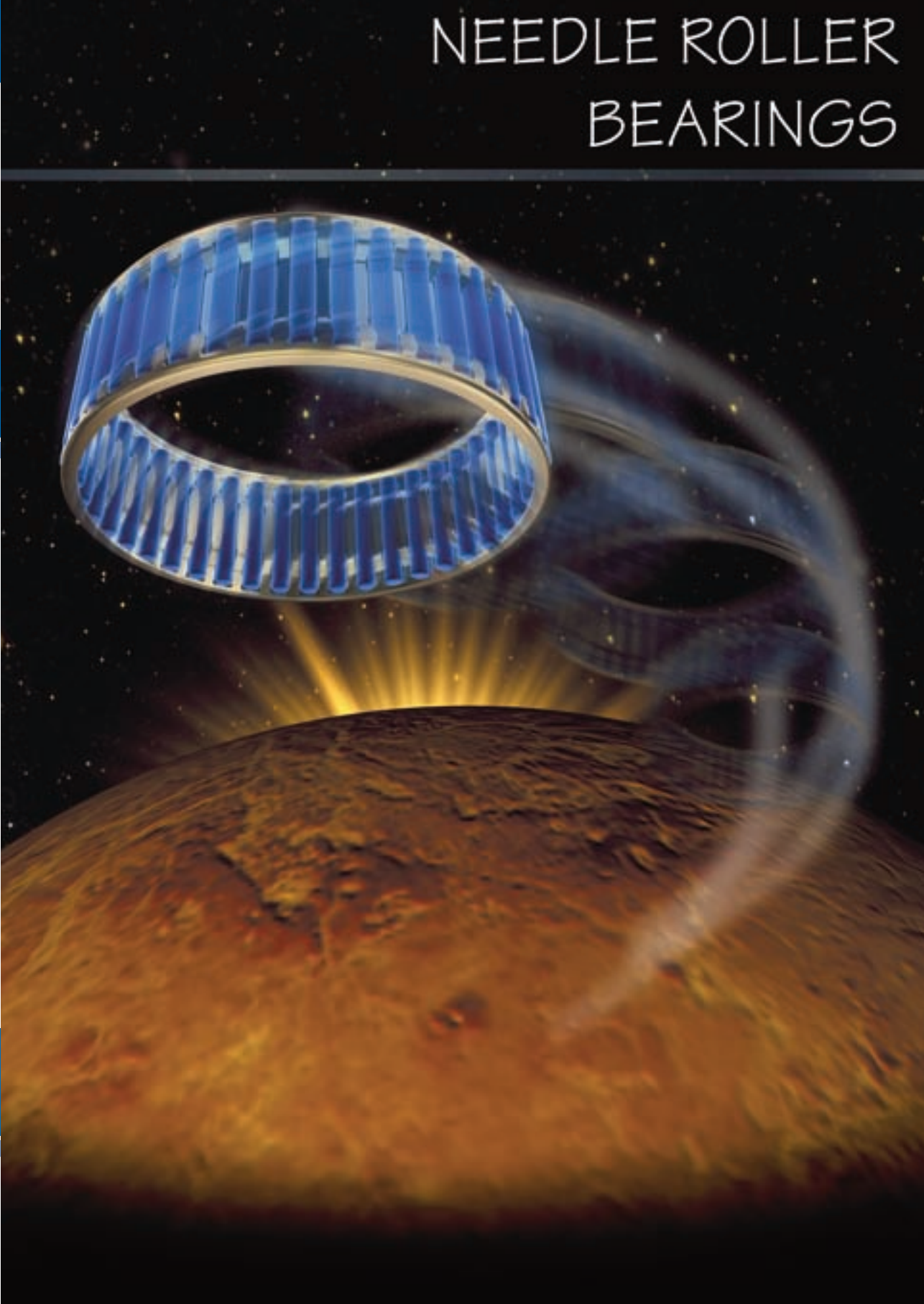
DIMENSIONS			BASIC LOAD RATING		MODIFICATION		BASIC DESIGNATIONS	MASS
WYMIARY GŁÓWNE			NOŚNOŚĆ		ODMIANA		OZNACZENIE PODSTAWOWE	MASA
d	D	H / H ₁	dynamic dynamiczna C	static statyczna C ₀	M	MU		~
mm			kN					kg
110	190	/ 67.2	265.00	560.0	•	•	53322	2.050
200	280	65.3	334.0	1180.0	•		53240	11.40
220	300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

Double-direction with aligning seat washers
Dwukierunkowe z kulistymi pierścieniami zewnetrznymi

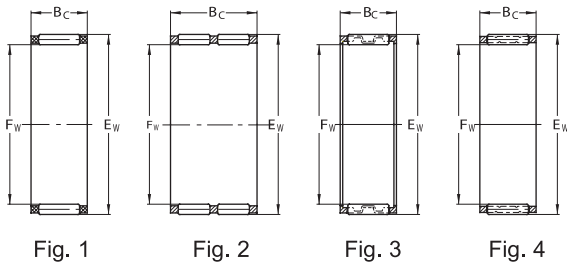
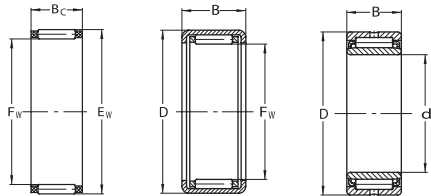


DIMENSIONS			BASIC LOAD RATING		MODIFICATION		BASIC DESIGNATIONS	MASS
WYMIARY GŁÓWNE			NOŚNOŚĆ		ODMIANA		OZNACZENIE PODSTAWOWE	MASA
d	D	H ₂ / H ₃	dynamic dynamiczna C	static statyczna C ₀	M	U MU		~
mm			kN					kg
45	95	49.6 / 55	63.5	139.0	•	•	54211	1.40
100	220	131.2 / 143	311.0	869.0	•	• •	T-54324	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 WYMIARY GŁÓWNE			BASIC LOAD RATING NOŚNOŚĆ		BEARING DESIGNATIONS OZNACZENIE ŁOŻYSKA	MASS MASA ~	FIG No NR RYS.
Fw	Ew	Bc	dynamic dynamiczna C	static statyczna C0			
mm			kN			kg	
12	17.000	14.2	8.00	9.50	KBK 12x17x14.2	0.008	4
12	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
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	1
16	20.000	23.0	13.40	19.50	KK 16x20x23 TNG	0.0080	2
16	22.000	12.0	10.60	11.10	KZK 16x22x12	0.0095	3
17	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	1
19	28.575	43.0	46.00	57.50	612-696 TNG	0.0560	1
19	25.300	19.8	18.40	23.70	F-52590	0.0172	1
20	26.000	17.0	19.90	24.80	K 20x26x17	0.0182	1
22	28.000	17.0	19.40	27.00	K 22x28x17	0.0180	1
22	29.000	16.0	17.80	21.20	KZK 22x29x16	0.0156	3
25	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
28	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	1
32	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
35	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
35	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	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	1

Drawn cup needle roller bearings | Łożyska cienkościenne

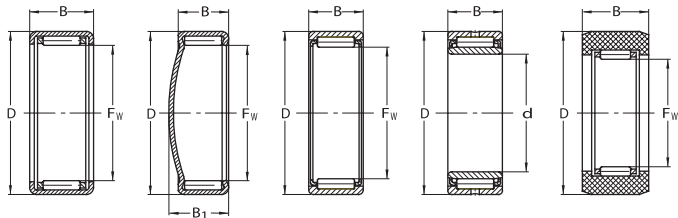
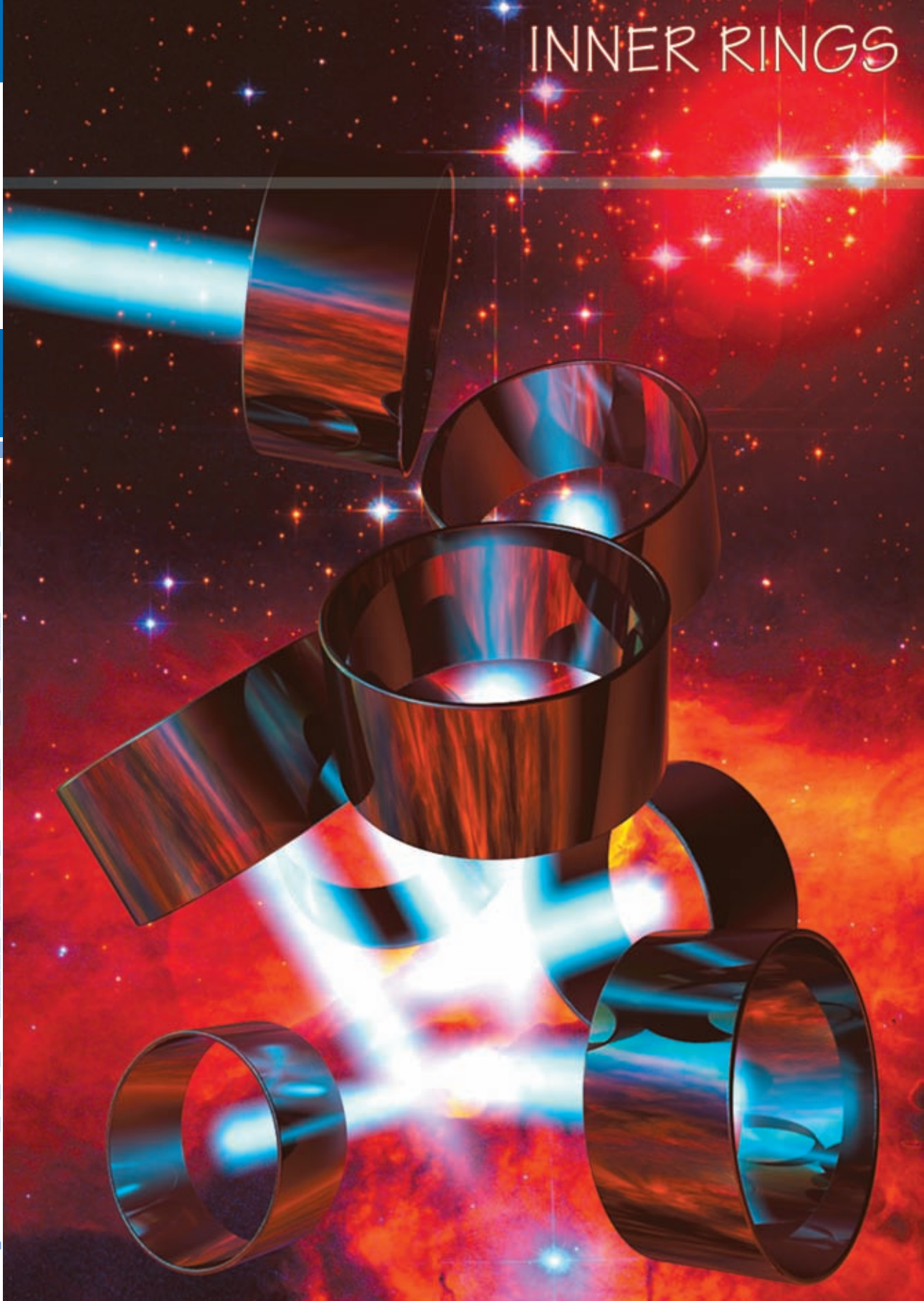


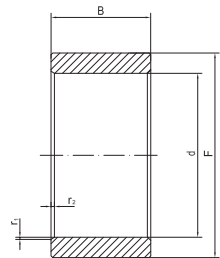
Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

DIMENSIONS				BASIC LOAD RATING		BEARING DESIGNATIONS OZNACZENIE ŁOŻYSKA	MASS	FIG No
WYMIARY GŁÓWNE				NOŚNOŚĆ			MASA	NR RYS.
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
	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
	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
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
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.

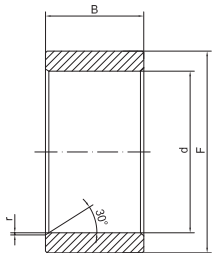
DIMENSIONS				BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE	MASS
WYMIARY GŁÓWNE					MASA
d	F	B	r _{1,2} min		
mm				r/min	kg
10	13	12.5	0.3	IR 10x13x12.5	0.005
	14	12.0	0.3	IR 10x14x12	0.007
	14	13.0	3.0	IR 10x14x13	0.007
	14	16.0	0.3	IR 10x14x16	0.009
	14	20.0	0.3	IR 10x14x20	0.012
12	15	12.0	0.3	IR 12x15x12	0.006
	15	12.5	0.3	IR 12x15x12.5	0.006
	15	16.0	0.3	IR 12x15x16	0.008
	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
14	17	17.0	0.3	IR 14x17x17	0.009
15	18	16.0	0.3	IR 15x18x16	0.010
	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
WYMIARY GŁÓWNE					MASA
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
	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	
22	26	16.0	0.3	IR 22x26x26	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
25	29	20.0	0.3	IR 25x29x20	0.027
	29	30.0	0.3	IR 25x29x30	0.040
	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
28	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
29	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
32	37	18.0	0.3	IR 30x37x18	0.050
	37	20.0	0.3	IR 32x37x20	0.043
	37	30.0	0.3	IR 32x37x20	0.064
	40	20.0	0.6	IR 32x40x20	0.069
40	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
40	45	17.0	0.3	IR 40x45x17	0.044
	45	20.0	0.3	IR 40x45x20	0.052
42	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	20.0	1.0	IR 40x50x20	0.110
	50	22.0	1.0	IR 40x50x22	0.120
	47	20.0	0.3	IR 42x47x20	0.055
44	47	30.0	0.3	IR 42x47x30	0.083
	50	20.0	0.3	IR 45x50x20	0.058
45	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
WYMIARY GŁÓWNE					MASA
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
	65	30.0	1.0	IR 55x65x30	0.220
60	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
65	70	60.0	1.0	IR 60x70x60	0.480
	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
	75	30.0	1.0	IR 65x75x30	0.260
70	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
75	80	56.0	1.0	IR 70x80x56	0.510
	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
80	85	54.0	1.0	IR 75x85x54	0.530
	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
85	90	54.0	1.0	IR 80x90x54	0.570
	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	



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
	110	35.0	1.1	IR 95x110x35	0.660
100	110	63.0	1.1	IR 95x110x63	1.200
	110	30.0	1.1	IR 100x110x30	0.390
	110	40.0	1.1	IR 100x110x40	0.510
	115	40.0	1.1	IR 100x115x40	0.790
110	120	30.0	1.0	IR 110x120x30	0.430
	125	40.0	1.1	IR 110x125x40	0.870
120	130	30.0	1.0	IR 120x130x30	0.460
	135	45.0	1.1	IR120x135x45	1.050
130	145	35.0	1.1	IR 130x145x35	0.890
	150	50.0	1.5	IR 130x150x50	1.750
140	155	35.0	1.1	IR 140x155x35	0.960
	160	50.0	1.5	IR 140x160x50	1.850
150	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
	15	12.50	0.3	LR 12x15x12.5	0.006
12	15	16.50	0.5	LR 12x15x16.5	0.008
	15	22.50	0.5	LR 12x15x22.5	0.011
	18	12.50	0.5	LR 15x18x12.5	0.007
15	18	16.50	0.5	LR 15x18x16.5	0.010
	20	16.50	0.5	LR 17x20x16.5	0.011
17	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
20	25	16.50	0.5	LR 20x25x16.5	0.022
	25	20.50	0.5	LR 20x25x20.5	0.028
22	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	30	20.50	0.5	LR 25x30x20.5	0.034
	30	26.50	0.5	LR 25x30x26.5	0.043
	30	38.50	0.5	LR 25x30x38.5	0.064
	35	12.50	0.5	LR 30x35x12.5	0.023
35	35	16.50	0.5	LR 30x35x16.5	0.031
	35	20.50	0.5	LR 30x35x20.5	0.041
	37	22.00	0.5	LR 30x37x22	0.061
40	40	12.50	0.5	LR 35x40x12.5	0.027
	40	16.50	0.5	LR 35x40x16.5	0.037
	40	20.50	0.5	LR 35x40x20.5	0.046
45	45	16.50	0.5	LR 40x45x16.5	0.041
	45	20.50	0.5	LR 40x45x20.5	0.053
45	50	20.50	0.5	LR 45x50x20.5	0.059
	50	25.50	0.5	LR 45x50x25.5	0.074
50	55	20.50	0.8	LR 50x55x20.5	0.064
*Tolerance: d (K6); D (h6); B (h12)					
*Tolerancje: d (K6); D (h6); B (h12)					

*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



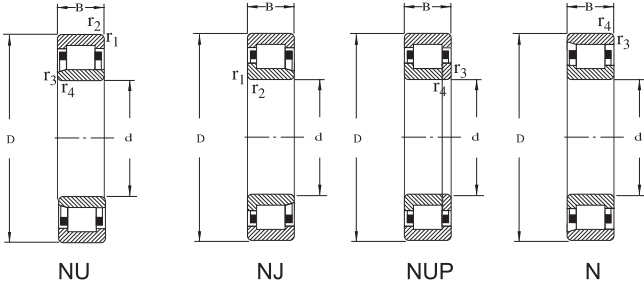
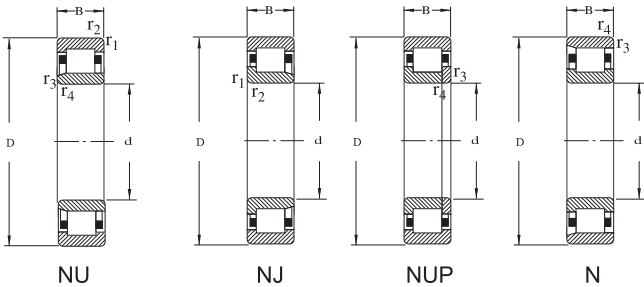
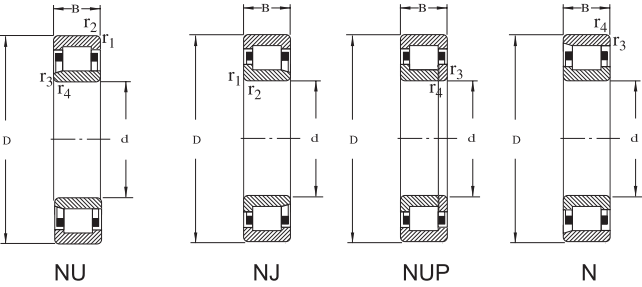


Table with 2 columns: PREFIX, SUFFIX. It lists various bearing designations and their meanings, such as 'R' for separable bearing, 'E' for modified internal design, 'M' for machined brass cage, etc.

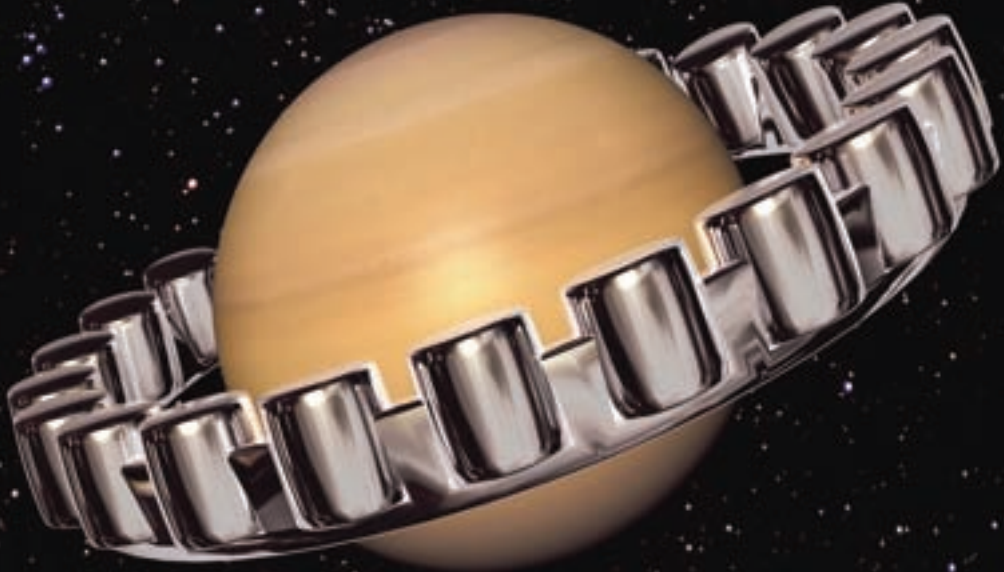
Table with 6 columns: DIMENSIONS, BASIC LOAD RATING, LIMITING SPEEDS, BASIC DESIGNATIONS, MASS, SKETCH. It provides detailed technical specifications for various bearing models, including dimensions (d, D, B, r1.2, r3.4), load ratings (dynamic, static), limiting speeds (grease, oil), and designations (e.g., N202E, NU202E).



DIMENSIONS					BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS	MASS	SKETCH
WYMIARY GŁÓWNE					NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE	MASA	SCHEMAT
d	D	B	r1,2	r3,4	dynamic	static	grease	oil		~	
mm					kN		r/min			kg	
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
	360	72	4.0	4.0	715.00	952.0	1 300	1 700	N334	37.200	N
180	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	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
	220	270	24	1.5	181.00	385.0	900	1 100	NCF1844V	2.800	NCF
	400	65	4.0	4.0	1060.00	1290.0	1 500	1 800	NU244	38.100	NU
220	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
240	300	28	2.0	2.0	240.00	490.0	900	1 000	NCF1848V	4.400	NCF
	270	360	60	2.1	790.00	1460.0	750	950	NCF2952V	18.500	NCF
	280	380	60	2.1	853.00	1670.0	700	900	NCF2956V	19.700	NCF
340	580	175	5.0	5.0	2720.00	4270.0	1 360	1 700	NU2356M	226.000	NU
	460	72	3.0	3.0	1100.00	2360.0	560	700	NCF2968V	34.800	NCF
	380	480	46	2.1	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	82	4.0	1120.00	2640.0	850	1 000	NJ2984	56.900	NJ
	440	650	94	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
22	47	18	2.0	1.0	35.00	26.0	-	-	CBK-497 *	0.140	CBK
	30	61.935	19.05	2.7	37.00	44.0	-	-	CBK-239 *	0.270	CBK
	49.930	80	15	0.3	28.00	33.0	-	-	CBK-238 *	0.270	CBK

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

SPHERICAL
ROLLER BEARINGS



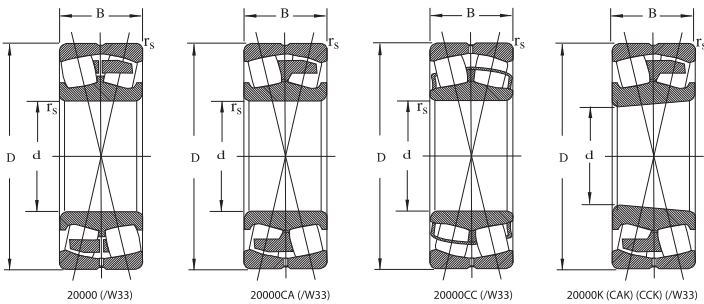
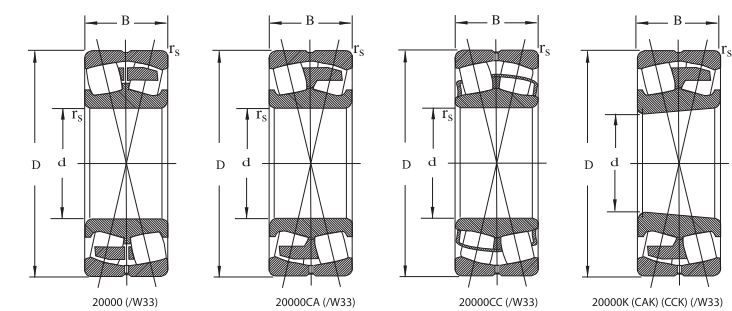
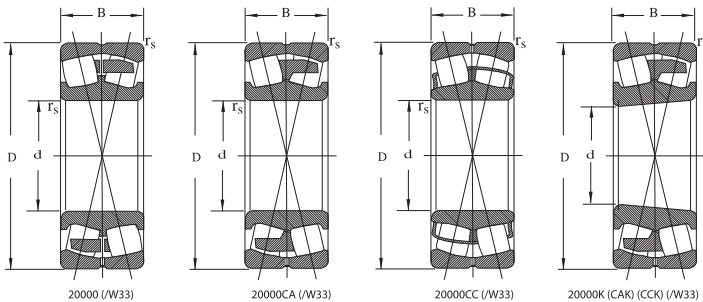


Table with 2 columns: SUFFIX and Characters placed after basic designation. It lists various suffixes like CA, CC,E,E1, MB, K, K30, W33, W20, C3, and C4 with their corresponding descriptions in English and Polish.

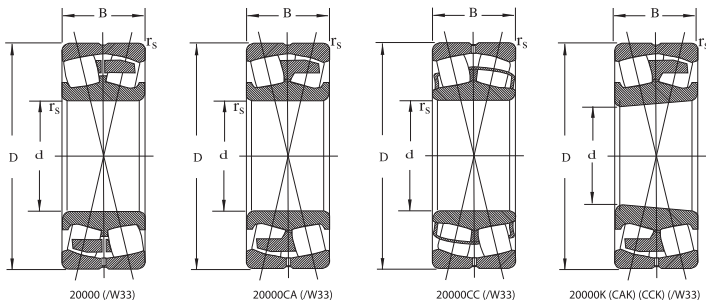
Large table with 5 main columns: DIMENSIONS, BASIC LOAD RATING, LIMITING SPEEDS, BASIC DESIGNATIONS, and MASS. It contains a comprehensive list of bearing models and their technical specifications.

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	~
			min	dynamyczna	statyczna	w smarze	w oleju	z otworem walcowym	z otworem stożkowym						C	C ₀			z otworem walcowym	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	250.00	298.00	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	250.00	298.00	3 200	4 000	22312CA	22312CAK	2.920	95	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		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
70	140	48.0	2.1	280.00	350.00	2 400	3 200	22313CC	22313CCK	3.550	100	200	67.0	3.0	556.00	709.00	2 000	2 600	22319CA	22319CAK	9.970
	140	48.0	2.1	280.00	350.00	3 000	3 800	22313CA	22313CAK	3.510		165	52.0	2.1	350.00	550.00	1 700	2 200	23120CA	23120CAK	4.430
	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
75	150	51.0	2.1	237.00	325.00	2 200	3 000	22314MB	22314MBK	4.210	110	215	73.0	3.0	464.00	688.00	1 400	1 800	22320MB	22320MBK	13.000
	150	51.0	2.1	315.00	375.00	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
	150	51.0	2.1	315.00	375.00	2 800	3 400	22314CA	22314CAK	4.320		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
80	160	37.0	2.1	238.00	302.00	1 900	2 600	21315CA	21315CAK	3.760	120	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
	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
85	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
	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
85	150	36.0	2.0	250.00	315.00	2 600	3 200	22217CA	22217CAK	2.870	120	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

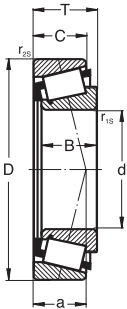


DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS	DIMENSIONS				BASIC LOAD RATING		LIMITING SPEEDS		BASIC DESIGNATIONS		MASS	
WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE		MASA	WYMIARY GŁÓWNE				NOŚNOŚĆ		OBROTY GRANICZNE		OZNACZENIE PODSTAWOWE		MASA	
d	D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

TAPERED ROLLER BEARINGS



F&T Tapered Roller Bearings
łożyska stożkowe



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

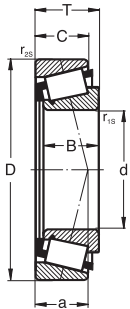
FD solid collapsible steel cage
• koszyk masywny stalowy

B Increased contact angle
• powiększony kąt działania łożyska

Table with 12 columns: DIMENSIONS (d, D, B, C, T, r1s, r2s, a), BASIC LOAD RATING (dynamic, static), LIMITING SPEEDS (grease, oil), MASS, and BASIC DESIGNATIONS. Rows include various bearing sizes from 15 to 72 mm.

Table with 12 columns: DIMENSIONS (d, D, B, C, T, r1s, r2s, a), BASIC LOAD RATING (dynamic, static), LIMITING SPEEDS (grease, oil), MASS, and BASIC DESIGNATIONS. Rows include various bearing sizes from 35 to 110 mm.

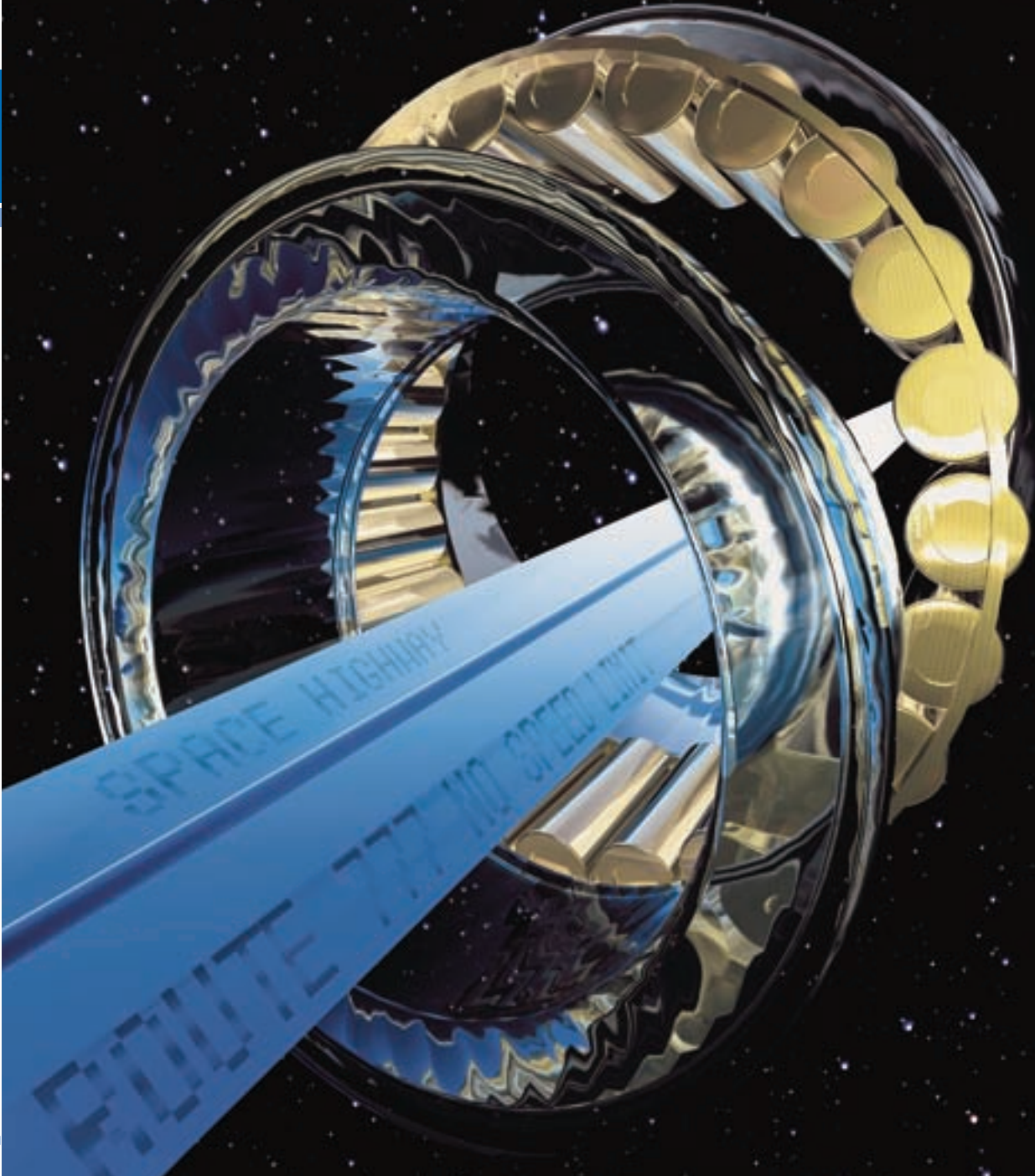
F&T Tapered Roller Bearings
łożyska stożkowe

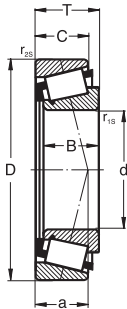


DIMENSIONS								BASIC LOAD RATING		LIMITING SPEEDS		MASS	BASIC DESIGNATIONS OZNACZENIE PODSTAWOWE
WYMIARY GŁÓWNE								NOŚNOŚĆ		OBROTY GRANICZNE		MASA	
d	D	B	C	T	r1s	r2s	a	dynamic	static	grease	oil	~	
					min	min	~	C	C0	w smarze	w oleju		
mm								kN		r/min		kg	
120	180	38.0	29.0	38.00	2.50	2.0	40	242.0	404.0	1 800	2 600	3.180	32024X
	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
	260	86.0	69.0	90.50	4.00	3.0	60	773.0	1 115.0	1 200	1 600	24.000	32324
130	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
	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
140	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
	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
150	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
	320	108.0	90.0	114.00	5.00	4.0	82	1 300.0	1 900.0	950	1 400	42.200	32330A
	290	80.0	67.0	84.00	4.00	3.0	69	856.5	1 435.0	1 000	1 400	23.100	32232P6X
160	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	1 020.0	1 640.0	1 000	1 300	28.500	32234A
	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
170	290	64.0	48.0	64.00	3.00	2.5	63	653.0	1 180.0	1 100	1 600	14.800	32038XP6X
	340	92.0	75.0	97.00	5.00	4.0	83	1 120.0	1 780.0	900	1 300	35.400	32238A
	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
200	300	51.0	39.0	51.00	3.00	2.5	59	448.0	911.0	1 000	1 500	10.100	32944
	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	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	671.0	1 610.0	850	1 200	26.200	32048X
	400	87.0	65.0	87.00	5.00	4.0	86	1 120.0	2 070.0	800	1 100	38.700	32052X
	540	102.0	80.0	112.00	6.00	6.0	98	1 960.0	2 660.0	960	1 200	110.960	30352FD
	280	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

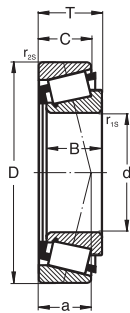
TAPERED ROLLER BEARINGS

SPECIAL AND INCH SIZES TAPERED ROLLER BEARINGS

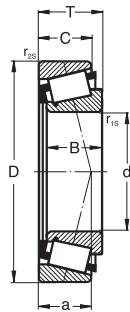




SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	DESIGNATION OZNACZENIE PODSTAWOWE		LOAD CALCULATION FACTORS Współczynniki obliczeniowe		
	d	D	T	B	C	r _{s1}	r _{s2}	a	dynamic DYNAMICZNE C	static STATYCZNE C ₀	grease w smarze	oil w oleju		FLT	Equivalent zamiennik	e	y ₁	y ₀
	mm					min	max	~					~					
	mm								kN		r/min		kg					
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
	0.6875	1.5700	0.5450	0.5750	0.4200	0.0500	0.0500											
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
	0.7500	1.7810	0.6100	0.6550	0.4750	0.0500	0.0500											
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
	0.8437	1.9687	0.6900	0.7200	0.5500	0.0500	0.0500											
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
	0.8656	1.7810	0.6100	0.6550	0.4750	0.0500	0.0500											
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
	1.0000	1.9800	0.5600	0.5800	0.4200	0.0500	0.0500											
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
	1.0000	2.2500	0.7650	0.7650	0.5800	0.0600	0.0600											
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
	1.0000	2.3437	0.8200	0.8100	0.5625	0.0300	0.0600											
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
	1.0625	1.9800	0.5600	0.5800	0.4200	0.1400	0.0500											
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	0.37	1.60	0.90
	1.1417	1.9800	0.5600	0.5800	0.4200	0.1400	0.0500											
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	331274 (SKF)	0.55	1.10	0.50
	1.1875	2.5312	0.8438	0.8438	0.6563	0.1400	0.1400											
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
	1.2500	2.3280	0.6250	0.6600	0.4650	0.1400	0.0500											
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
	1.2500	2.4409	0.7150	6.7500	0.5625	0.1600	0.0500											
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
	1.2500	2.4170	0.7813	0.7710	0.6250	0.1400	0.0500											
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
	1.2500	2.7500	0.9375	0.9983	0.7500	0.0315	0.0512											
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
	1.2500	2.8750	1.1563	1.0938	0.9063	0.0500	0.1300											
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 99443/K-HM 89410	0.55	1.10	0.60
	1.3125	3.0000	1.1563	1.1250	0.9063	0.0300	0.0800											
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
	1.3750	2.5625	0.7100	0.7200	0.5500	0.1400	0.0500											
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
	1.3750	2.7170	0.7813	0.7710	0.6250	0.0600	0.0500											
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
	1.3750	2.8750	0.9375	0.9688	0.7500	0.0600	0.0900											
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											

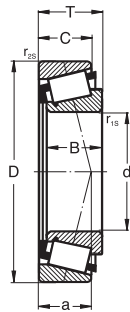


SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE								BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	DESIGNATION OZNACZENIE PODSTAWOWE		LOAD CALCULATION FACTORS Współczynniki obliczeniowe		
	d	D	T	B	C	r _{s1}	r _{s2}	a	dynamic DYNAMICZNE C	static STATYCZNE C ₀	grease w smarze	oil w oleju		F&T	Equivalent zamiennik	e	y ₁	y ₀
	mm	mm	mm	mm	mm	min	max	~					kg					
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											
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
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											



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 _{s1}	r _{s2}	a	dynamic DYNAMICZNE C	static STATYCZNE C ₀	grease w smarze	oil w oleju		FLT	Equivalent zamiennik	e	y ₁	y ₀
	mm					min	max	~					~					
	mm								kN		r/min		kg					
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
65.000	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
65.000	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
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

F&T Special and inch size tapered Roller Bearings
Specjalne i calowe łożyska stożkowe



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 _{s1}	r _{s2}	a	dynamic DYNAMICZNE C	static STATYCZNE C ₀	grease w smarze	oil w oleju		FLT	Equivalent zamiennik	e	y ₁	y ₀
	mm					min	max	~					~					
	mm								kN		r/min		kg					
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	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	515-121	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		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
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
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
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



Deep groove ball bearings

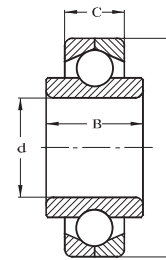


Fig. 1

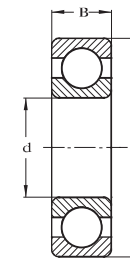


Fig. 2

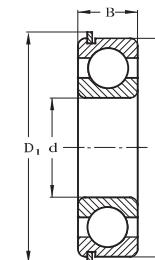


Fig. 3

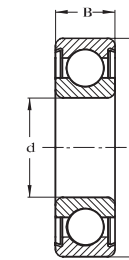


Fig. 4

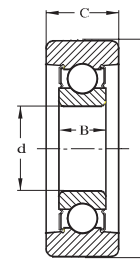


Fig. 5

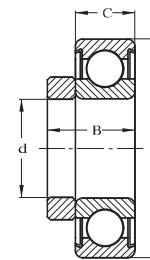


Fig. 6

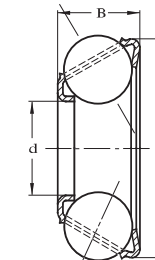


Fig. 7

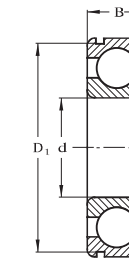
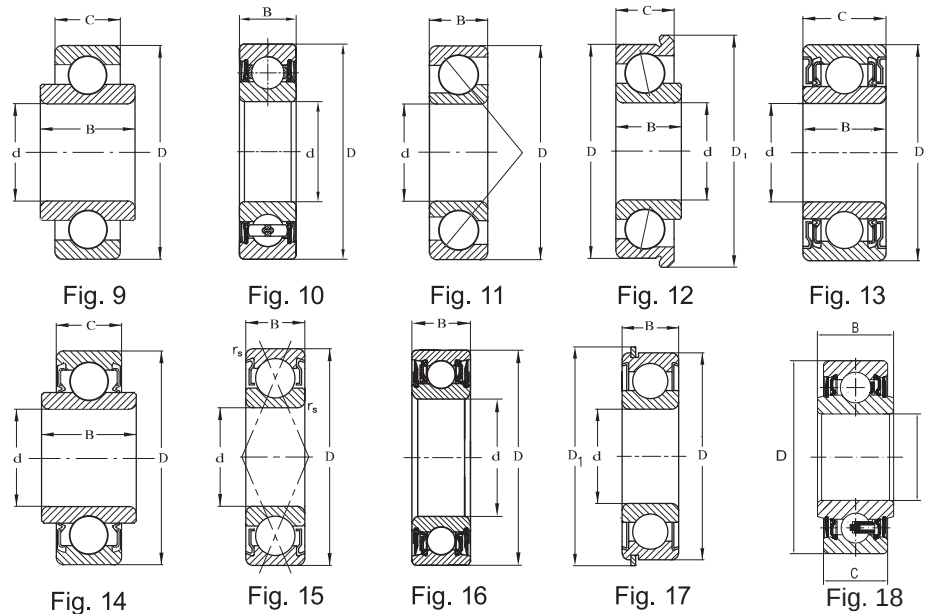


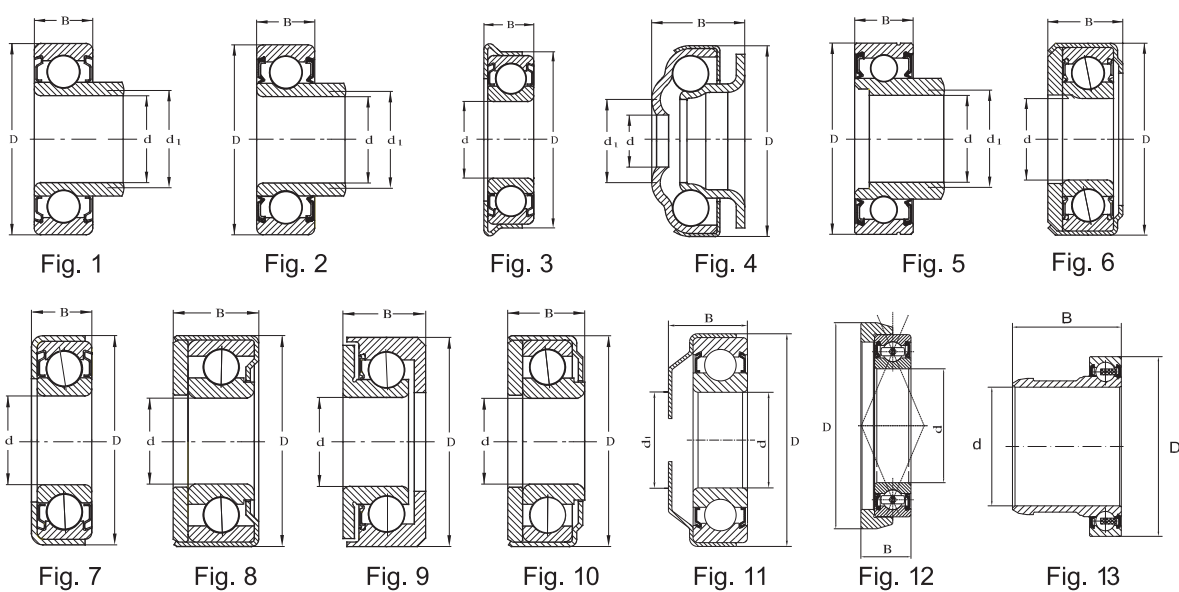
Fig. 8

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	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

Deep groove ball bearings



Clutch's ball bearings for cars. trucks and tractors



DIMENSIONS					BASIC LOAD RATING		BEARING DESIGNATIONS	MASS	FIG No	DIMENSIONS			PRESSURE DIAMETER	BASIC LOAD RATING		BEARING DESIGNATIONS	MASS	FIG No
WYMIARY GŁÓWNE					NOŚNOŚĆ					WYMIARY GŁÓWNE				NOŚNOŚĆ				
d	D	D ₁	B	C	dynamic	static				d	D	B	d ₁	dynamic	static			
mm					kN			kg		mm			mm	kN			kg	
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
	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
50.000	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
	80		16		33.0	31.0	134-956-2RS	0.260	15	37.000	62.0	14.000	39.5	16.0	10.3	CBK-269X1	0.170	1
	90		30	22	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
52.413	90		18		28.3	21.3	114-741	0.392	2	42.000	62.0	32.550		12.1	8.9	VE535D5100	0.151	13
55.000	90		22		29.6	21.3	114-1015-2RS-2BRS	0.450	16	50.000	81.6	25.000		21.8	16.6	114-733	0.440	6
	100		21		66.3	55.0	134-955-2Z	0.604	15		90.5	22.000		33.0	31.0	174-1075	0.445	12
60.000	110		55	22	35.3	36.0	114-772	1.148	9		90.0	49.700		25.8	18.0	VE535G5000		13
	80		12		20.2	19.2	114-940TN	0.109	2	52.388	84.5	18.000		21.8	16.6	CBK-197	0.330	7
	110		26		46.1	33.1	114-1019-2RSR2-2BRS2	0.850	16		84.3	27.000	54.0	21.8	16.6	114-791-2Z	0.380	11
70.000	110		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
75.000	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
85.000	115		26		19.2	19.8	114-1079TNG 2RSR2-2BRS2	0.680	16	65.000	100.0	21.971		30.5	25.2	CBK-297X1	0.535	10
110.000	160		30		43.6	44.5	115-1189TNG 2RS	1.750	4	75.000	117.0	27.000		39.5	33.5	114-740	0.870	6
140.000	215	225	43	38	116.0	139.0	CBK-031P6	7.450	12	78.000	115.0	55.000		47.6	39.8	VE535A6300		13
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																		
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																		

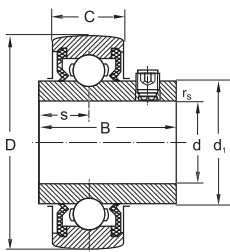


Fig. 1

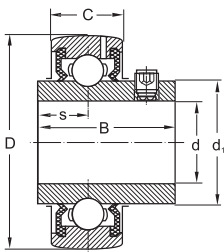


Fig. 2

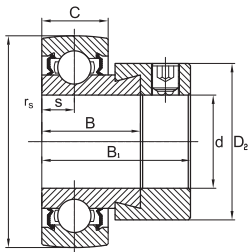


Fig. 3

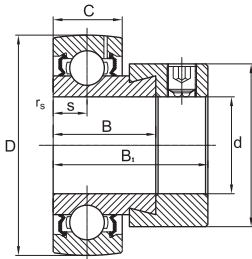


Fig. 4

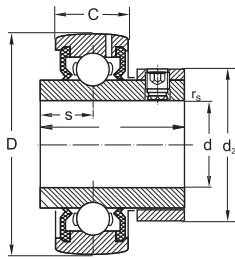


Fig. 5

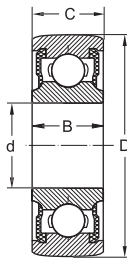
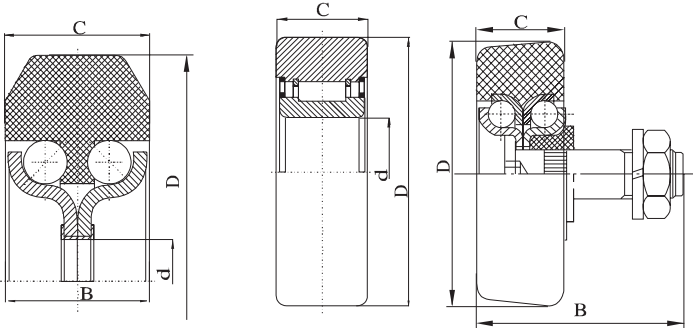
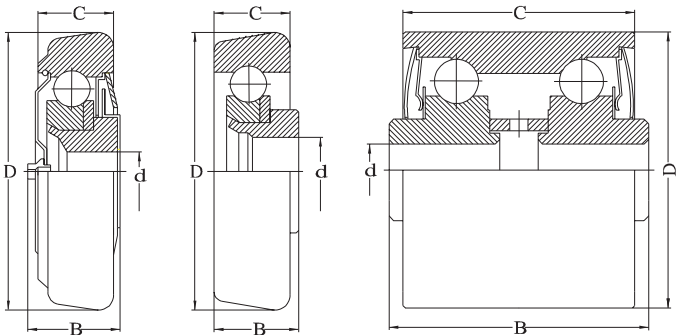
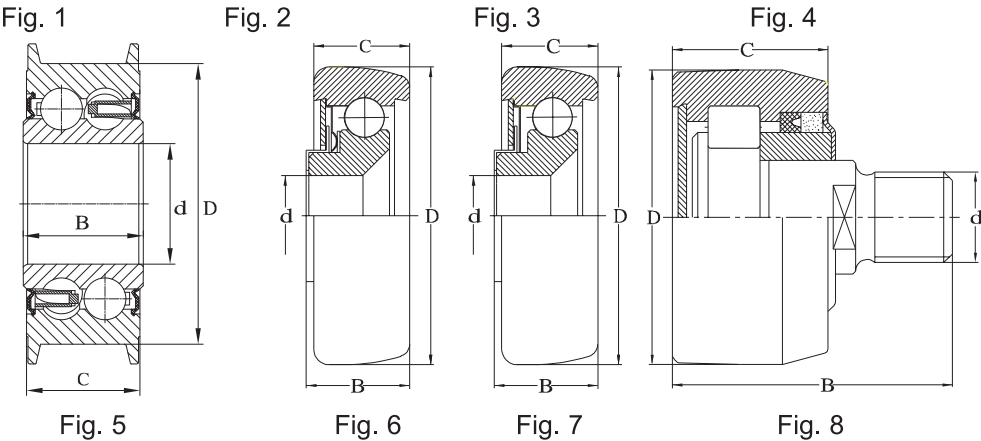
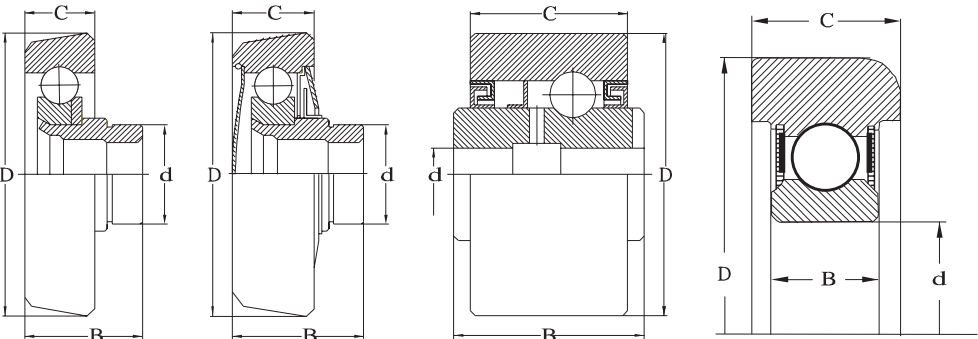


Fig. 6

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	~		F&T	KOYO	
	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	30	62.0	39.1		19	1.0	15.9	40.70		19.50	11.35	0.320	1	C206		
	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	
	30	62.0	23.8	35.7	18	1.0	9.0		45.00	19.50	11.35	0.300	4	FD206		
35	30	62.0	16.0		16	1.0				19.50	11.35	0.180	6	K62062RS		
	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	
	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	19	1.1	9.5		56.50	19.70	15.30	0.480	4	FD207		
	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		
40	40	80.0	49.2		21	1.1	19.0	52.40		22.40	17.90	0.640	2	FC208	UC208	
	40	80.0	29.7	43.7	21	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		
	40	80.0	18.0		18	1.1				22.40	17.90	0.320	6	K62082RS		
	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	0.6				40.70	23.90	0.630	6	K6308 2RS		
	40	90.0	52.0		28	1.1	19.0	55.20		40.70	23.90	1.117	1	114-708(728) 2RS		
45	45	85.0	49.2		22	1.1	19.0	57.40		25.20	20.50	0.680	2	FC209	UC209	
	45	85.0	29.7	43.7	22	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		
	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		
	45	100.0	52.0		28	1.1	19.0	55.20		40.70	23.90	1.117	1	114-708(728) 2RS		
50	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	
	50	90.0	51.6		22	1.1	19.0		79.00	35.10	23.20	1.000	5	FB210		
55	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 Suport rollers, Must Guide bearings
łożyska kulkowe - Rolki toczne i prowadzące

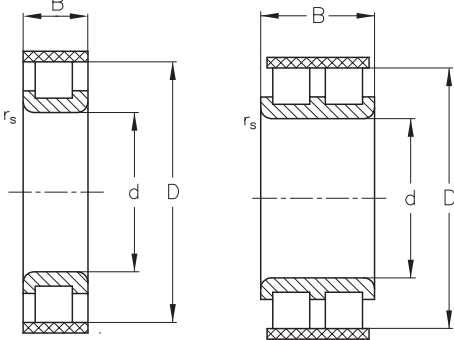
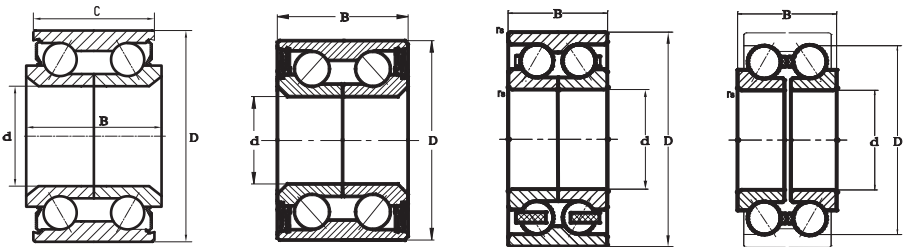


DIMENSIONS				BASIC		BEARING	MASS		DIMENSIONS				BASIC		BEARING	MASS	
WYMIARY GŁÓWNE				LOAD RATING		DESIGNATIONS	~	FIG No	WYMIARY GŁÓWNE				LOAD RATING		DESIGNATIONS	~	FIG No
				NOŚNOŚĆ		OZNACZENIE PODSTAWOWE	MASA	NR RYS.					NOŚNOŚĆ		OZNACZENIE PODSTAWOWE	MASA	NR RYS.
d	D	B	C	dynamic	static				d	D	B	C	dynamic	static			
				dynamiczna	statyczna								dynamiczna	statyczna			
				C	C ₀								C	C ₀			
mm				kN			kg		mm				kN			kg	
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		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		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	45.00	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		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		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		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		151.000	31.0	36	82.0	52.0	115-935	3.115	4
40.00	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

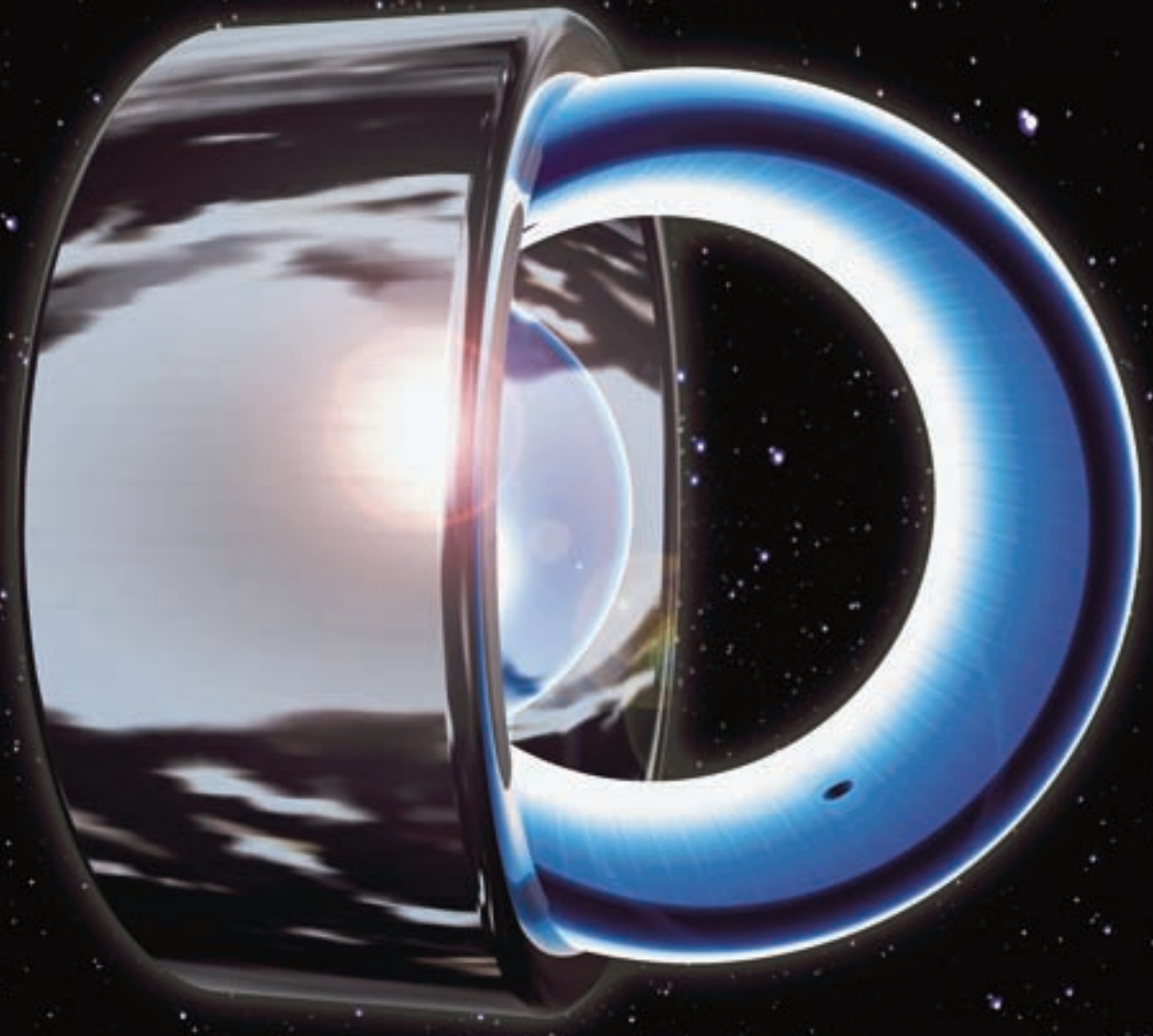
Bearings without cage with full quantity of rolling elements

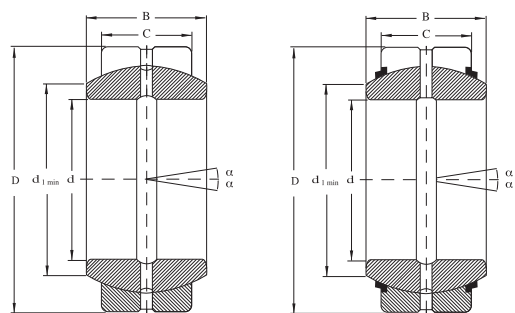
Łożyska bez koszyka z pełną ilością wałków



SHAFT WAŁEK	DIMENSIONS WYMIARY GŁÓWNE					BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		DESIGNATION FŁT OZNACZENIE FŁT	MASS MASA	FIG No NR RYS.	DIMENSIONS WYMIARY GŁÓWNE				DESIGNATIONS FŁT OZNACZENIE	BASIC LOAD RATING NOŚNOŚĆ		LIMITING SPEEDS OBROTY GRANICZNE		MASS MASA	FIG No NR RYS.
	d	D	B	C	r _{1s} min	dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju		~		d	D	B	r _s min		dynamic dynamiczna C	static statyczna C ₀	grease w smarze	oil w oleju	~	
	mm					kN		r/min			kg		mm					kN		r/min		kg	
30	30	60.000	37.000	37.0	2.5	37.80	31.10	7 000		CBK-199TNG	0.450	1	15	25.93	10.5	0.3	262-345	10.80	10.90				1
	30	60.000	37.000	37.0	2.5	37.80	31.00	7 000		CBK-199BTNG	0.420	2	18	32.52	13.0	2.0	263-899	19.9	21.2	4 600	6 200	0.044	1
	30	60.030	37.000	37.0	2.5	37.80	31.10	7 000		CBK-441TNG	0.440	1	20	33.83	18.0	0.3	263-346	26.1	28.8	3 900	5 200		1
	30	60.030	37.000	37.0	3.2	37.80	31.10	7 000		CBK-441BTNG	0.440	2		36.81	16.0	2.6	263-919	27.5	27.9	3 900	5 200	0.061	1
	30	60.030	37.000	37.0	0.3	37.80	31.10	7 000		133-637TNG-2RS	0.420	1		33.90	16.0	2.6	263-1023	27.0	30.0	3 900	5 200	0.070	1
34	34	64.000	37.000	37.0	2.4	42.20	35.40	6 300		133-639BATNG	0.430	2	24	40.25	26.0	2.5	263-904	44.0	59.8	3 400	4 600	0.140	2
	34	66.000	37.000	37.0	2.4	42.20	35.40	6 300		134-1009TNG 2RS	0.520	2	25	42.51	12.0	2.6	263-1122	21.9	21.8	3 100	4 100	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		46.52	18.0	3.0	263-898	45.0	48.1	3 100	4 100	0.130	1
35	35	66.000	33.000	33.0	2.5	39.90	34.70	6 300		134-781TNG-2RS	0.460	1		46.52	18.0	3.0	263-1294	45.0	48.1	3 100	4 100	0.156	1
	35	68.000	37.000	37.0	2.5	43.60	37.20	6 300		134-643TNG-2RS	0.530	1		42.51	16.0	2.5	263-1021	31.2	34.4	3 100	4 100	0.095	1
	35	68.000	37.000	37.0	2.5	43.60	37.20	6 300		134-738PTNG-2RS-2BRS6	0.530	2		40.25	26.0	2.5	263-1092	44.0	59.8	3 100	4 100	0.130	2
	35	68.015	37.000	37.0	2.5	41.70	35.50	6 300		134-863TNG-2RS	0.563	1		42.55	18.0	3.0	263-1105	40.5	47.8	3 100	4 100	0.110	1
37	37	72.000	37.000	37.0	2.4	44.20	39.70	5 000		134-964PTNG-2RS-2BRS	0.577	1	30	49.60	26.0	3.0	263-920	57.1	70.4	2 800	3 800	0.200	2
39	39	68.000	37.000	37.0	3.2	39.80	36.30	5 600		134-746BDTNG-2RS	0.420	2		49.60	26.0	3.0	263-922	57.1	70.4	2 800	3 800	0.188	2
	39	72.000	37.000	37.0	2.4	44.20	39.70	5 000		134-725PTNG-2RS-2BRS	0.500	2		49.60	25.0	3.0	263-1089	57.1	70.4	2 800	3 800	0.183	2
40	40	72.000	37.000	37.0	2.4	44.20	39.70	5 000		134-797BTNG-2RS	0.520	2	32	51.75	29.0	3.0	263-1017	71.5	95.5	2 600	3 500	0.232	2
42	42	80.000	42.000	42.0	2.4	65.00	55.50	5 000		134-739BTNG-2RS	0.753	2		46.60	25.0	3.0	263-1022	54.3	82.5	2 600	3 500	0.159	2
	42	80.030	42.000	42.0	2.4	65.00	55.50	5 000		134-806BTNG-2RS	0.750	2	38	52.95	28.0	3.0	263-921	59.2	97.0	2 500	3 400	0.195	2
48	48	82.000	37.000	33.0	3.2	53.00	50.00	5 000		134-905TNGRS6RS	0.631	1	40	57.81	34.0	3.2	263-1177	86.0	141.0	2 300	3 000	0.291	2
100	100	125.000	29.000		1.0	34.30	43.70	3 200		135-1042TNG	0.640	3		61.74	28.0	3.5	263-918	70.6	90.6	2 300	3 000	0.279	2
110	110	140.000	30.000	30.0	1.0	43.00	57.00	2 800	3 400	135-954TNG	0.908	3		61.74	32.0	3.0	263-917	85.4	115.8	2 300	3 000	0.329	2
130	130	172.000	38.000	38.0	1.0	86.70	109.80	2 300	2 700	135-929TNG	1.870	3		61.74	38.0	1.1	263-962	101.0	143.0	2 300	3 000	0.377	2
160	160	204.576	53.000		1.8	171.00	263.00		2 200	166-1012TNG	2.620	4		75.63	78.0	1.1	264-175	248.0	325.0	1 800	2 500		2
190	190	254.035	70.126		2.5	281.00	440.00		1 700	166-997TNG	5.290	4	42	60.75	37.0	3.0	263-924	100.7	156.9	2 300	3 000	0.347	2
200	200	280.446	93.126		2.5	385.00	620.00		1 500	167-994TNG	9.220	4	44	62.97	37.0	2.5	263-1020	103.5	164.4	2 100	2 800	0.370	2
230	230	311.446	91.626		3.0	405.00	700.00		1 400	167-995TNG	10.640	4	45	66.85	37.5	3.5	263-923	106.0	157.0	2 100	2 800	0.428	2
														83.88	85.0	1.1	264-176	275.0	380.0			1.820	2
													50	69.67	42.5	6.0	264-428	118.0	202.0	1 800	2 500		2
														72.33	40.0	1.1	263-1024	131.0	195.0	1 800	2 500	0.489	2
														72.33	42.0	1.1	263-963	131.0	195.0	1 800	2 500	0.500	2
														94.75	44.0	6.2	264-1018	178.0	237.0	1 400	1 900	1.270	2
														72.00	31.0	4.0	263-1064	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
													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



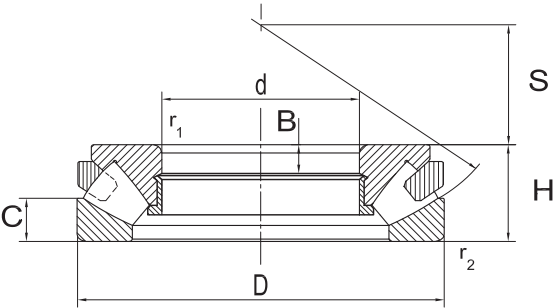


DIMENSIONS						BASIC LOAD RATING		BASIC DESIGNATIONS		MASS
WYMIARY GŁÓWNE						NOŚNOŚĆ		OZNACZENIE PODSTAWOWE		~ MASA
d	D	B	C	d ₁	α°	dynamic dynamiczna C	static statyczna C ₀			
mm						kN				kg
15	26	12	9	16.6	8	18.0	45	GE15ES		0.032
20	35	16	12	21.8	9	31.5	78	GE20ES		0.065
25	42	20	16	27.7	7	51.0	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

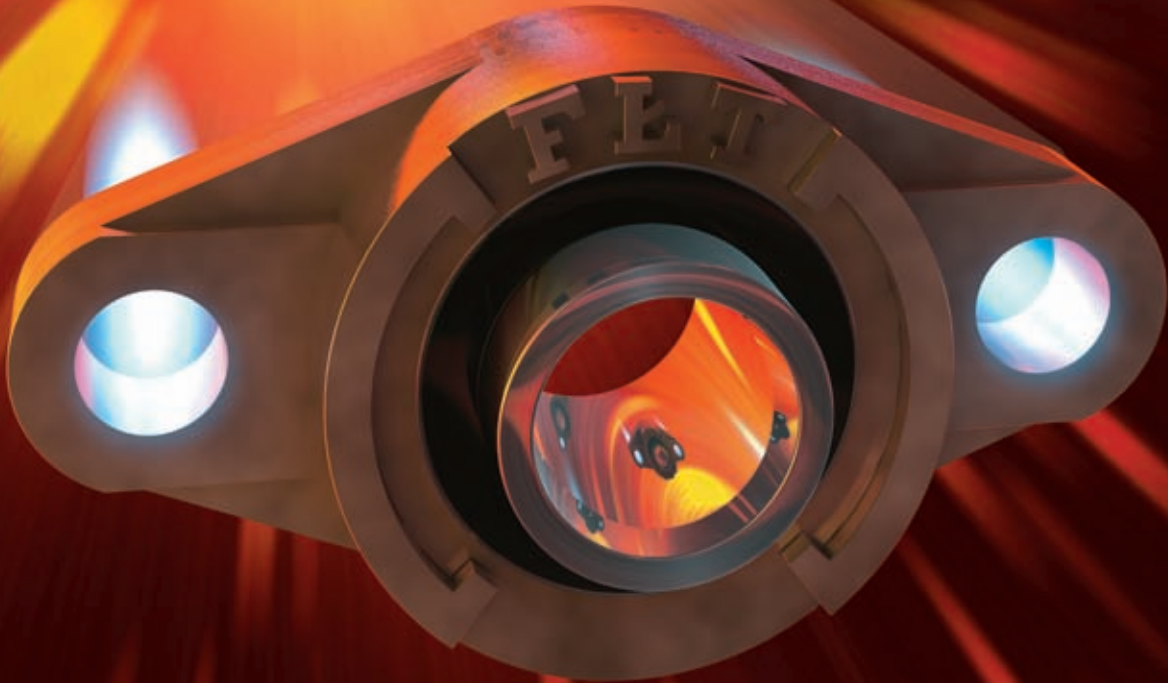


F&T Spherical Roller Thrust Bearings
łożyska barytkowe wzdlużne

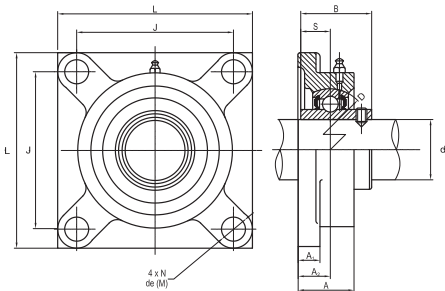


DIMENSIONS							BASIC LOAD RATING		BASIC	MASS
WYMIARY GŁÓWNE							NOŚNOŚĆ		DESIGNATIONS	~
d	D	H	B	C	S	r _{1,2}	dynamic dynamiczna C	static statyczna C ₀	OZNACZENIE PODSTAWOWE	MASA
mm							kN			kg
60	130	42	15	20.0	38	1.5	335	900	29412M	2.23
65	140	45	16	21.0	42	2.0	380	1 020	29413M	3.03
70	150	48	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
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
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

UNITS

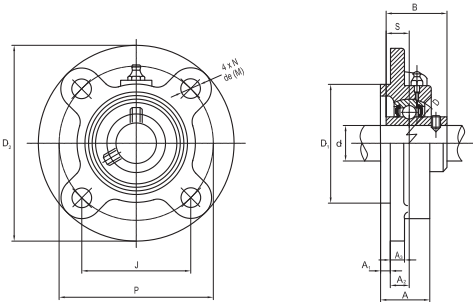


UCF- units with squqre flange | UFC - oprawy kołnierzowe kwadratowe



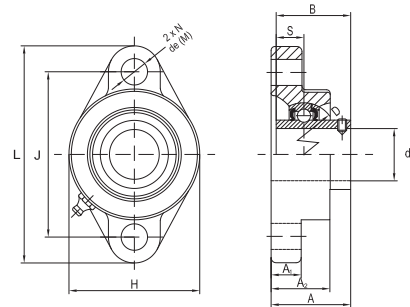
DIMENSIONS WYMIARY GŁÓWNE											MASS MASA ~	DESIGNATION OZNACZENIE	BEARING ŁOŻYSKO	HOUSING OPRAWA
d	D	B	S	L	J	A	A ₁	A ₂	N	d _e				
mm											kg			
Series : 2														
12	47	31.0	12.7	86	64	25.5	11	15	12	M10	0.57	UCF201	UC201	F204
15	47	31.0	12.7	86	64	25.5	11	15	12	M10	0.56	UCF202	UC202	F204
17	47	31.0	12.7	86	64	25.5	11	15	12	M10	0.55	UCF203	UC203	F204
20	47	31.0	12.7	86	64	25.5	11	15	12	M10	0.53	UCF204	UC204	F204
25	52	34.1	14.3	95	70	27	13	16	12	M10	0.72	UCF205	UC205	F205
30	62	38.1	15.9	108	83	31	13	18	12	M10	1.02	UCF206	UC206	F206
35	72	42.9	17.5	117	92	34	15	19	14	M12	1.30	UCF207	UC207	F207
40	80	49.2	19.0	130	102	36	15	21	16	M14	1.68	UCF208	UC208	F208
45	85	49.2	19.0	137	105	38	16	22	16	M14	1.95	UCF209	UC209	F209
50	90	51.6	19.0	143	111	40	16	22	16	M14	2.26	UCF210	UC210	F210
55	100	55.6	22.2	162	130	43	18	25	19	M16	2.92	UCF211	UC211	F211
60	110	65.1	25.4	175	143	48	18	29	19	M16	3.36	UCF212	UC212	F212
65	120	65.1	25.4	187	149	50	22	30	19	M16	4.73	UCF213	UC213	F213
70	125	74.6	30.2	193	152	54	22	31	19	M16	5.42	UCF214	UC214	F214
75	130	77.8	33.3	200	159	56	22	34	19	M16	5.83	UCF215	UC215	F215
80	140	82.6	33.3	208	165	58	22	34	23	M20	6.77	UCF216	UC216	F216
85	150	85.7	34.1	220	175	63	24	36	23	M20	8.37	UCF217	UC217	F217
90	160	96.0	39.7	235	187	68	24	40	23	M20	9.93	UCF218	UC218	F218
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

UCFC- units with round flange | UCFC - oprawy kołnierzowe okrągłe



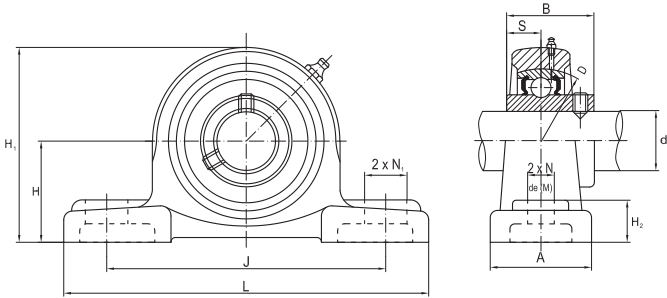
DIMENSIONS WYMIARY GŁÓWNE														MASS MASA ~	DESIGNATION OZNACZENIE	BEARING ŁOŻYSKO	HOUSING OPRAWA
d	D	B	S	D ₁	D ₂	J	P	A	A ₁	A ₂	A ₃	N	d _e				
mm														kg			
12	47	31.0	12.7	62	100	55.1	78	20.5	5	10	7	12	M10	0.72	UCFC201	UC201	FC204
15	47	31.0	12.7	62	100	55.1	78	20.5	5	10	7	12	M10	0.71	UCFC202	UC202	FC204
17	47	31.0	12.7	62	100	55.1	78	20.5	5	10	7	12	M10	0.70	UCFC203	UC203	FC204
20	47	31.0	12.7	62	100	55.1	78	20.5	5	10	7	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	80	125	70.7	100	23	8	10	8	12	M10	1.25	UCFC206	UC206	FC206
35	72	42.9	17.5	90	135	77.8	110	26	8	11	9	14	M12	1.56	UCFC207	UC207	FC207
40	80	49.2	19.0	100	145	84.8	120	26	10	11	9	14	M12	1.95	UCFC208	UC208	FC208
45	85	49.2	19.0	105	160	93.3	132	26	12	10	14	16	M14	2.56	UCFC209	UC209	FC209
50	90	51.6	19.0	110	165	97.6	138	28	12	10	14	16	M14	2.72	UCFC210	UC210	FC210
55	100	55.6	22.2	125	185	106.1	150	31	12	13	15	19	M16	3.72	UCFC211	UC211	FC211
60	110	65.1	25.4	135	195	113.1	160	36	12	17	15	19	M16	4.67	UCFC212	UC212	FC212
65	120	65.1	25.4	145	205	120.2	170	36	14	16	15	19	M16	5.21	UCFC213	UC213	FC213
70	125	74.6	30.2	150	215	125.1	177	40	14	17	18	19	M16	5.81	UCFC214	UC214	FC214
75	130	77.8	33.3	160	220	130.1	184	40	16	18	18	19	M16	7.03	UCFC215	UC215	FC215
80	140	82.6	33.3	170	240	141.1	200	42	16	18	18	23	M20	8.44	UCFC216	UC216	FC216

UCFL- units with oval flange | UCFL - oprawy kołnierzowe owalne



DIMENSIONS WYMIARY GŁÓWNE												MASS MASA ~ kg	DESIGNATION OZNACZENIE	BEARING ŁOŻYSKO	HOUSING OPRAWA
d	D	B	S	L	J	H	A	A ₁	A ₂	N	de				
mm															
12	47	31.0	12.7	113	90	60	25.5	11	15	12	M10	0.43	UCFL201	UC201	FL204
15	47	31.0	12.7	113	90	60	25.5	11	15	12	M10	0.42	UCFL202	UC202	FL204
17	47	31.0	12.7	113	90	60	25.5	11	15	12	M10	0.41	UCFL203	UC203	FL204
20	47	31.0	12.7	113	90	60	25.5	11	15	12	M10	0.39	UCFL204	UC204	FL204
25	52	34.1	14.3	130	99	68	27	13	16	16	M14	0.56	UCFL205	UC205	FL205
30	62	38.1	15.9	148	117	80	31	13	18	16	M14	0.78	UCFL206	UC206	FL206
35	72	42.9	17.5	161	130	90	34	15	19	16	M14	1.01	UCFL207	UC207	FL207
40	80	49.2	19.0	175	144	100	36	15	21	16	M14	1.30	UCFL208	UC208	FL208
45	85	49.2	19.0	188	148	108	38	16	22	19	M16	1.65	UCFL209	UC209	FL209
50	90	51.6	19.0	197	157	115	40	16	22	19	M16	1.91	UCFL210	UC210	FL210
55	100	55.6	22.2	224	184	130	43	18	25	19	M16	2.64	UCFL211	UC211	FL211
60	110	65.1	25.4	250	202	140	48	18	29	23	M20	3.46	UCFL212	UC212	FL212
65	120	65.1	25.4	258	210	155	50	22	30	23	M20	4.21	UCFL213	UC213	FL213
70	125	74.6	30.2	265	216	160	54	22	31	23	M20	4.95	UCFL214	UC214	FL214
75	130	77.8	33.3	275	225	165	56	22	34	23	M20	5.32	UCFL215	UC215	FL215
80	140	82.6	33.3	290	233	180	58	22	34	25	M22	6.48	UCFL216	UC216	FL216
85	150	85.7	34.1	305	248	190	63	24	36	25	M22	7.78	UCFL217	UC217	FL217
90	160	96.0	39.7	320	265	205	68	24	40	25	M22	9.54	UCFL218	UC218	FL218

UCP- bearings plummer block units | UCP - oprawy masywne wolnostojące



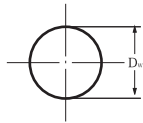
DIMENSIONS WYMIARY GŁÓWNE													MASS MASA ~	DESIGNATION OZNACZENIE	BEARING ŁOŻYSKO	HOUSING OPRAWA
d	D	B	S	L	J	H	H1	H2	A	N	N1	de				
mm													kg			
Series : 2																
12	47	31.0	12.7	127	95	30.2	62	14	38	13	19	M10	0.68	UCP201	UC201	P203
15	47	31.0	12.7	127	95	30.2	62	14	38	13	19	M10	0.67	UCP202	UC202	P204
17	47	31.0	12.7	127	95	30.2	62	14	38	13	19	M10	0.66	UCP203	UC203	P204
20	47	31.0	12.7	127	95	33.3	65	14	38	13	19	M10	0.64	UCP204	UC204	P204
25	52	34.1	14.3	140	105	36.5	71	15	38	13	19	M10	0.72	UCP205	UC205	P205
30	62	38.1	15.9	165	121	42.9	83	17	48	17	23	M14	1.16	UCP206	UC206	P206
35	72	42.9	17.5	167	127	47.6	93	18	48	17	23	M14	1.41	UCP207	UC207	P207
40	80	49.2	19.0	184	137	49.2	100	18	54	17	23	M14	1.81	UCP208	UC208	P208
45	85	49.2	19.0	190	146	54.0	106	20	54	17	23	M14	2.05	UCP209	UC209	P209
50	90	51.6	19.0	206	159	57.2	114	21	60	20	26	M16	2.51	UCP210	UC210	P210
55	100	55.6	22.2	219	171	63.5	126	23	60	20	26	M16	3.13	UCP211	UC211	P211
60	110	65.1	25.4	241	184	69.8	138	25	70	20	26	M16	4.26	UCP212	UC212	P212
65	120	65.1	25.4	265	203	76.2	151	27	70	25	31	M20	5.13	UCP213	UC213	P213
70	125	74.6	30.2	266	210	79.4	157	27	72	25	31	M20	5.80	UCP214	UC214	P214
75	130	77.8	33.3	275	217	82.6	163	28	74	25	31	M20	6.29	UCP215	UC215	P215
80	140	82.6	33.3	292	232	88.9	175	30	78	25	31	M20	7.73	UCP216	UC216	P216
85	150	85.7	34.1	310	247	95.2	187	32	83	25	31	M20	9.34	UCP217	UC217	P217
90	160	96.0	39.7	327	262	101.6	200	33	88	27	33	M22	11.06	UCP218	UC218	P218
100	180	108.0	42.0	380	308	115.0	225	40	95	30	38	M24	16.00	UCP220	UC220	P220
Series : 3																
25	62	38	15	175	132	45	85	15	45	17	20	M14	1.40	UCP305	UC305	P305
30	72	43	17	180	140	50	95	18	50	17	20	M14	1.80	UCP306	UC306	P306
35	80	48	19	210	160	56	106	20	56	17	25	M14	2.80	UCP307	UC307	P307
40	90	52	19	220	170	60	116	22	60	17	27	M14	3.00	UCP308	UC308	P308
45	100	57	22	245	190	67	129	24	67	20	30	M16	4.10	UCP309	UC309	P309
50	110	61	22	275	212	75	143	27	75	20	35	M16	5.80	UCP310	UC310	P310
55	120	66	25	310	236	80	154	30	80	20	38	M16	7.40	UCP311	UC311	P311
60	130	71	26	330	250	85	165	32	85	25	38	M20	9.40	UCP312	UC312	P312
65	140	75	30	340	260	90	176	33	90	25	38	M20	10.00	UCP313	UC313	P313
70	150	78	33	360	280	95	187	35	90	27	40	M22	12.00	UCP314	UC314	P314
75	160	82	32	380	290	100	198	35	100	27	40	M22	14.00	UCP315	UC315	P315
80	170	86	34	400	300	106	210	40	110	27	40	M22	18.00	UCP316	UC316	P316
85	180	96	40	420	320	112	220	40	110	33	45	M27	20.00	UCP317	UC317	P317
90	190	96	40	430	330	118	235	45	110	33	45	M27	24.00	UCP318	UC318	P318
95	200	103	41	470	360	125	250	45	120	36	50	M30	29.00	UCP319	UC319	P319
100	215	108	42	490	380	140	275	50	120	36	50	M30	35.00	UCP320	UC320	P320
105	225	112	44	490	380	140	280	50	120	36	50	M30	35.00	UCP321	UC321	P321
110	240	117	46	520	400	150	300	55	140	40	55	M33	45.00	UCP322	UC322	P322
120	260	126	51	570	450	160	320	65	140	40	55	M33	55.00	UCP324	UC324	P324
130	280	135	54	600	480	180	355	75	140	40	55	M33	72.00	UCP326	UC326	P326
140	300	145	59	620	500	200	390	75	140	40	55	M33	89.00	UCP328	UC328	P328

BALLS, NEEDLE ROLLERS



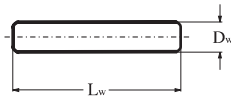
Steel balls

Kulki stalowe



Needle rollers

Igielki



Forme A

Forme B

NOMINAL DIAMETER		MASS PER 1000 BALLS MASA 1000 KULEK
ŚREDNICA NOMINALNA		
D		
mm	inch (cal)	kg
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		
mm	inch (cal)	kg
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
Material carbon chromium steel. Material: 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		

DESIGNATIONS WYMIARY GŁÓWNE	DIMENSIONS WYMIARY
	D _w
	mm
2.0 x 6.8 B	2.0000
2.0 x 7.8 A	2.0000
2.0 x 8.8 B	2.0000
2.0 x 9.05 B	2.0000
2.0 x 9.3 A	2.0000
2.0 x 9.4 A	2.0000
2.0 x 9.8 A	2.0000
2.0 x 10.2 A	2.0000
2.0 x 10.4 A	2.0000
2.0 x 10.8 A	2.0000
2.0 x 11.2 A	2.0000
2.0 x 11.7 B	2.0000
2.0 x 11.8 A	2.0000
2.0 x 12.8 A	2.0000
2.0 x 13.8 A	2.0000
2.0 x 15.8 A	2.0000
2.0 x 17.8 A	2.0000
2.0 x 19.8 A	2.0000
2.5 x 7.8 A	2.5000
2.5 x 9.8 A	2.5000
2.5 x 9.8 B	2.5000
2.5 x 17.8 B	2.5000
2.5 x 19.8 A	2.5000
3.0 x 13.8 B	3.0000
3.5 x 15.8 A	3.5000
3.5 x 17.8 A	3.5000
3.5 x 19.8 A	3.5000
4.0 x 11.8 B	4.0000
4.0 x 15 B	4.0000
4.0 x 23.8 B	4.0000
4.0 x 29.8 B	4.0000
4.0 x 32 A	4.0000
5.0 x 19.8 B	5.0000
5.0 x 23.8 A	5.0000
5.0 x 25.8 A	5.0000
5.0 x 29.8 A	5.0000
6.0 x 17.8 B	6.0000
6.0 x 21.8 A	6.0000
6.0 x 21.8 B	6.0000
6.35 x 21.59 B	6.3500
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

[illegible]

0 + 20 = 400
 00 + 25 = 400
 600 + 25 = 400

500
 100
 200
 300
 400
 500
 600
 700
 800
 900
 1000
 1100
 1200
 1300
 1400
 1500
 1600
 1700
 1800
 1900
 2000
 2100
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 8200
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 8400
 8500
 8600
 8700
 8800
 8900
 9000
 9100
 9200
 9300
 9400
 9500
 9600
 9700
 9800
 9900
 10000

480 500 520 540 560 580 600 620 640 660 680 700 720 740 760 780 800 820 840 860 880 900 920 940 960 980 1000

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

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

Inner ring

Pierścienie wewnętrzne

d		Δdmp		Vdp			Vdmp	ΔBs		VBs	Kia
				DIAMETER SERIES SERIA ŚREDNIC							
				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
mm		µm		µm			µm	µm		µm	µm
2.5	10	0	-8	10	8	6	6	0	-120	15	10
10	18	0	-8	10	8	6	6	0	-120	20	10
18	30	0	-10	13	10	8	8	0	-120	20	13
30	50	0	-12	15	12	9	9	0	-120	20	15
50	80	0	-15	19	19	11	11	0	-150	25	20
80	120	0	-20	25	25	15	15	0	-200	25	25
120	180	0	-25	31	31	19	19	0	-250	30	30
150	250	0	-30	38	38	23	23	0	-300	30	40
250	315	0	-35	44	44	26	26	0	-350	35	50
315	400	0	-40	50	50	30	30	0	-400	40	60
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

D		ΔDmp		Vdp			BEARINGS WITH SHIELDS OR SEALS* ŁOŻYSKA ZAKRYTE	Vdmp	ΔCs'	VCs	K _{ea}
				DIAMETER SERIES SERIA ŚREDNIC							
				8.9	0.1	2.3.4					
over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max	max	max	max	max			max
mm		μm		μm			μm	μm	μm		μm
6	18	0	-8	10	8	6	10	6	Values are i dential to those for inner ring of the same bear- ing (ΔBs'. VBs)		15
18	30	0	-9	12	9	7	12	7			15
30	50	0	-11	14	11	8	16	8			20
50	80	0	-13	16	13	10	20	10			25
80	120	0	-15	19	19	11	26	11			35
120	150	0	-18	23	23	14	30	14	Wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔBs'. VBs)		40
150	180	0	-25	31	31	19	38	19			45
180	250	0	-30	38	38	23	-	23			50
250	315	0	-35	44	44	26	-	26			60
315	400	0	-40	50	50	30	-	30			70
400	500	0	-45	56	56	34	-	34			80
500	630	0	-50	63	63	38	-	38			100
630	800	0	-75	94	94	55	-	55			120
800	1 000	0	-100	125	125	75	-	75			140
1 000	1 250	0	-125	-	-	-	-	-			160

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

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

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

Inner ring

Pierścienie wewnętrzne

d		Δdmp		Vdp			Vdmp	ΔBs		VBs	K _{la}
				DIAMETER SERIES SERIA ŚREDNIC							
				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
mm		μm		μm			μm	μm		μm	μm
3	10	0	-7	9	7	5	5	0	-120	15	6
10	18	0	-7	9	7	5	5	0	-120	20	7
18	30	0	-8	10	8	6	6	0	-120	20	8
30	50	0	-10	13	10	8	8	0	-120	20	10
50	80	0	-12	15	15	9	9	0	-150	25	10
80	120	0	-15	19	19	11	11	0	-200	25	13
120	180	0	-18	23	23	14	14	0	-250	30	18
180	250	0	-22	28	28	17	17	0	-300	30	20
250	315	0	-25	31	31	19	19	0	-350	35	25
315	400	0	-30	38	38	23	23	0	-400	40	30

Outer ring

Pierścienie zewnętrzne

D		ΔDmp		Vdp				Vdmp	ΔCs'	VCs	K _{ea}
				DIAMETER SERIES SERIA ŚREDNIC							
				8.9	0.1	2.3.4					
over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max	max	max	max	max			max
mm		μm		μm			μm	μm	μm		μm
6	18	0	-7	9	7	5	9	5	values are identical to those for inner ring of the same bearing (ΔBs'. VBs)		8
18	30	0	-8	10	8	6	10	6			9
30	50	0	-9	11	9	7	13	7			10
50	80	0	-11	14	11	8	16	8			13
80	120	0	-13	16	16	10	20	10			18
120	150	0	-15	19	19	11	25	11	wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (ΔBs'. VBs)		20
150	180	0	-18	23	23	14	30	14			23
180	250	0	-20	25	25	15	-	15			25
250	315	0	-25	31	31	19	-	19			30
315	400	0	-28	35	35	21	-	21			35
400	500	0	-33	41	41	25	-	25			40

*Applies only to bearings of Diameter series 0. 1. 2. 3 and 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		Δ dmp		Vdp	Vdmp	Δ Bs		Kia	Δ Ts		Δ T1s		Δ T2s	
over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max	max	high odchyl. górna	low dchyl. dolna	max	high odchyl. górna	low odchyl. dolna	high odchyl. górna	low odchyl. dolna	high odchyl. górna	low odchyl. dolna
mm		μ m		μ m	μ m	μ m		μ m	μ m		μ m		μ m	
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

- Tolerances for thrust bearings - Shaft washer

Tolerancje wymiarów głównych dla łożysk wzdłużnych - Pierścień wewnętrzny

d		TOLERANCE CLASS KLASA TOLERANCJI			TOLERANCE CLASS KLASA TOLERANCJI	
		P0. P6			P0	P6
		Δ Dmp		VDp	Si*	Si*
over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max powyżej	max	max
mm		μ m			μ m	
	18	0	-8	6	10	5
18	30	0	-10	8	10	5
30	50	0	-12	9	10	6
50	80	0	-15	11	10	7
80	120	0	-20	15	15	8
120	180	0	-25	19	15	9
180	250	0	-30	23	20	10
250	315	0	-35	26	25	13
315	400	0	-40	30	30	15
400	500	0	-45	34	30	18
500	630	0	-50	38	35	21
630	800	0	-75	-	40	25

*For double direction bearings, the value for the single direction bearing having the same outside diameter applies

*Wartości Si dla łożysk dwukierunkowych sa identyczne jak dla łożysk jednokierunkowych o tej samej średnicy zewnętrznej

Outer ring

Pierścienie zewnętrzne

D		Δ Dmp		VDp	Vdmp	Δ Cs	Kea
over powyżej	incl. włącznie	high odchyl. górna	low odchyl. dolna	max	max		max
mm		μ m		μ m	μ m	μ m	μ m
18	30	0	-12	12	9	Values are identical to those for inner ring of the same bearing (Δ Bs)	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	Wartości są identyczne jak dla pierśc. wewn. tego samego łożyska (Δ Bs)	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

Bearings tolerances - Tolerances for thrust bearings - Housing washer

Tolerancje wymiarów głównych dla łożysk wzdłużnych - Pierścień zewnętrzny

D		TOLERANCE CLASS KLASA TOLERANCJI			Se
		Δ Dmp		VDp	
		high odchyl. górna	low odchyl. dolna	max powyżej	
over powyżej	incl. włącznie	μ m		μ m	Values are identical to those for inner ring of the same bearing (Si)
mm		μ m		μ m	
18	30	0	-13	10	
30	50	0	-16	12	
50	80	0	-19	14	
80	120	0	-22	17	
120	180	0	-25	19	
180	250	0	-30	23	
250	315	0	-35	26	
315	400	0	-40	30	
400	500	0	-45	34	Wartości są identyczne jak dla pierścieni wewn. tego samego łożyska (Si)
500	630	0	-50	38	
630	800	0	-75	55	
800	1000	0	-100	75	
1000	1250	0	-160	-	

FŁT Bearing Data - General

Bearings tolerances - Tolerances for thrust bearings

TTolerancje wymiarów głównych dla łożysk wzdłużnych

Tolerances of hardened carbon steel balls (ISO 3290)

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

Bearings height

Wysokość łóżysk

BORE DIAMETER ŚREDNICA OTWORU		HEIGHT TOLERANCES TOLERANCJE WYSOKOŚCI									
d		H		H1		H2		H3		H*	
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
mm		μm		μm		μm		μm		μm	
-	30	+20	-250	+100	-250	+150	-400	+300	-400	+20	-300
30	50	+20	-250	+100	-250	+150	-400	+300	-400	+20	-300
50	80	+20	-300	+100	-300	+150	-500	+300	-500	+20	-400
80	120	+25	-300	+150	-300	+200	-500	+400	-500	+25	-400
120	180	+25	-400	+150	-400	+200	-600	+400	-600	+25	-500
180	250	+30	-400	+150	-400	+250	-600	+500	-600	+30	-500
250	315	+40	-400	+200	-400	+350	-700	+600	-700	+40	-700
315	400	+40	-500	+200	-500	+350	-700	+600	-700	+40	-700
400	500	+50	-500	+300	-500	+400	-900	+750	-900	+50	-900
500	630	+60	-600	+350	-600	+500	-1100	+900	-1100	+60	-1200
630	800	+70	-750	+400	-750	+600	-1300	+1100	-1300	+70	-1400
800	1 000	+80	-1000	+450	-1000	+700	-1500	+1300	-1500	+80	-1800

GRADE KLASA	BALL DIAMETER ŚREDNICA KULKI		TOLERANCES KLASA TOLERANCJI				GAUGE INTERVAL GRUPA SELEKCYJNA	GAUGE MEAN VALUES (deviation range) ZAKRES ODCHYLEK				
	D_w		V _{Dws}	t _{Dw}	R _L	V _{DwL}	I					
	over powyżej	incl. włącznie	max	max	max	max						
	mm			μm			μm	μm				
G3	-	12.7	0.08	0.08	0.012	0.13	0.5	-5...	-0.5	0	+0.5...	+5
G5	-	12.7	0.13	0.13	0.020	0.25	1.0	-5...	-1	0	+1...	+5
G10	-	25.4	0.25	0.25	0.025	0.50	1.0	-9...	-1	0	+1...	+9
G16	-	25.4	0.40	0.40	0.032	0.80	2.0	-10...	-2	0	+2...	+10
G20	-	25.4	0.50	0.50	0.040	1.00	2.0	-10...	-2	0	+2...	+10
G28	25.4	50.8	0.70	0.70	0.050	1.40	2.0	-12...	-2	0	+2...	+12
G40	-	101.6	1.00	1.00	0.080	2.00	4.0	-16...	-4	0	+4...	+16
G100	101.6	152.4	2.50	2.50	0.125	5.00	5.0	-20...	-5	0	+5...	+20
	152.4	175.0	2.50	2.50	0.125	5.00	10.0	-40...	-10	0	+10...	+40
G200	175.0	250.0	5.00	5.00	0.200	10.00	15.0	-60...	-15	0	+15...	+60

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 NORMALNY		C3		C4		C5		d		C2		NORMAL NORMALNY		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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