

## Характеристики

### Метрические размеры

Серии 1600, 6000, 6200, 6800 и 6900

### Имперские (дюймовые) размеры

Постоянно имеются в наличии подшипники популярной серии R

### Конические роликовые подшипники

Доступны как в метрических, так и в имперских (дюймовых) размерах

- Стандартным материалом изготовления колец и шариков подшипников является высокоуглеродистая хромистая подшипниковая сталь марки Gcr15
- Доступны с защитными шайбами из нержавеющей стали
- Сальники из нитрилового каучука Buna Nitrile и фторуглеродной резины. Для специальных применений доступны силиконовые и тефлоновые сальники
- Доступны сепараторы из нержавеющей стали, на основе феноло-альдегидной или полиамидной смолы, которые предназначены для применения в агрессивной среде, в условиях смещения или на высоких скоростях

# Общая информация

## Смазка

Подшипники Challenge поставляются с малошумной консистентной подшипниковой смазкой, загущенной 12-гидроксистеаратом лития и кальция, изготовленной из высокоочищенного минерального масла и содержащей антикоррозийные и антиоксидантные присадки.

Эта смазка имеет отличные шумоподавляющие свойства, обладает устойчивостью к коагуляции и не содержит тяжелых металлов или нитратов, которые могут нанести вред здоровью или окружающей среде.

Диапазон температур от -20 до +120 градусов по Цельсию.

По индивидуальному запросу шарики подшипников могут быть смазаны другими смазывающими веществами или маслами. Для специальных применений свяжитесь со службой поддержки: [technicalsupport@challengeproduction.com](mailto:technicalsupport@challengeproduction.com).

## Материалы

### Кольца и шарики

Стандартным материалом изготовления прецизионных колец и шариков подшипников является высокоуглеродистая хромистая подшипниковая сталь марки Gcr15.

Химический состав материала приведен в таблице 1, сравнение № подшипниковой стали для каждой страны - в таблице 2.

### Сепараторы

Как правило сепаратор изготавливается из листовой меди H62 или ленты из холоднокатанной стали 08F. Однако, в случаях применения в агрессивных средах, в условиях смещения или на высоких скоростях возможно изготовление из нержавеющей стали, на основе полиамидной или феноло-альдегидной смолы.

### Защитные шайбы и сальники

Стандартное исполнение защитных шайб - нержавеющая сталь. В случае необходимости доступны (по запросу) защитные шайбы из нержавеющей стали марки AISI-300. Для изготовления сальников используется широкий спектр материалов, отвечающих требованиям по эксплуатации в условиях высокой температуры и соответствующих различным видам смазок.

В качестве стандартного материала используется нитриловый каучук Buna Nitril, в то время как фторуглеродные, силиконовые и тефлоновые сальники предназначены, как правило, для использования в условиях высоких температур.

### Коррозиестойкость

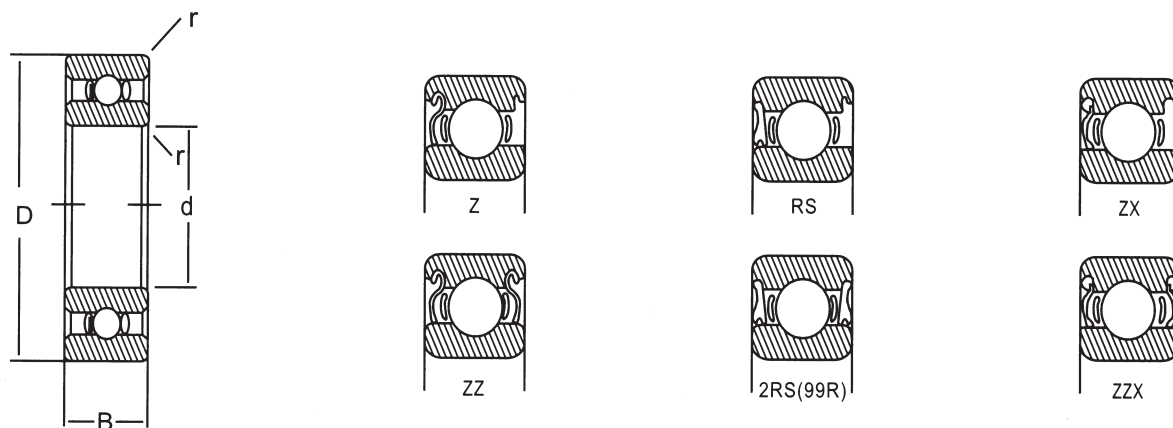
При нормальных условиях хранения период коррозиестойкости составляет шесть месяцев. По окончании этого периода продукт подлежит проверке с последующим принятием мер по возобновлению коррозиестойкости (в соответствии с руководством по предотвращению возникновения коррозии).

### Упаковка

Как правило, подшипники упаковываются в пластиковые трубы или небольшие коробки, затем пакуются в картон. В случае необходимости особые условия относительно упаковки должны быть оговорены заранее, до осуществления заказа.

# Серия 6000

Серия 6000

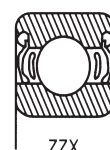
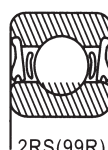
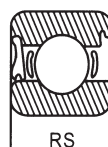
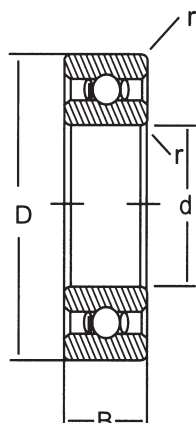


## Серия 6000

Номер подшипника	Размеры формы				Основная номинальная нагрузка кН		Максимальная скорость биения об./мин.		Комплект шариков		Вес кгс
	Отверстие d	Наружн. диам. D	Ширина B	Фаска г мин	Динамическая C <sub>d</sub>	Статическая C <sub>0g</sub>	Смазка	Масло	Кол-во	Размер	
<b>Серия 6000</b>											
605	5	14	5	0.2	1.05	0.50	32000	40000	7	2.381	0.0045
606	6	17	6	0.3	1.95	0.72	30000	38000	6	3.175	0.0057
607	7	19	6	0.3	2.88	1.08	28000	36000	6	3.969	0.0071
608	8	22	7	0.3	3.32	1.38	26000	34000	7	3.969	0.011
609	9	24	7	0.3	3.35	1.40	22000	30000	7	3.969	0.014
6000	10	26	8	0.3	4.58	1.98	20000	28000	7	4.763	0.018
6001	12	28	8	0.3	5.10	2.38	19000	26000	8	4.763	0.021
6002	15	32	9	0.3	5.58	2.85	18000	24000	9	4.763	0.026
6003	17	35	10	0.3	6.00	3.25	17000	22000	10	4.763	0.036
6004	20	42	12	0.6	9.38	5.02	15000	19000	9	6.350	0.069
6005	25	47	12	0.6	10.1	5.85	13000	17000	10	6.350	0.075
6006	30	55	13	1.0	10.18	6.91	10000	14000	11	7.144	0.116
6007	35	62	14	1.0	12.46	8.65	9000	12000	11	7.938	0.155
6008	40	68	15	1.0	13.09	9.44	8500	11000	12	7.938	0.185
6009	45	75	16	1.0	21.0	15.1	7200	9000	12	8.731	0.231
6010	50	80	16	1.0	21.8	16.6	6400	7800	13	8.731	0.250
6011	55	90	18	1.1	28.3	21.2	5700	7000	11	11.112	0.362
6012	60	95	18	1.1	29.5	23.2	5000	6300	12	11.112	0.385
6013	65	100	18	1.1	30.5	25.2	5300	6300			0.421
6014	70	110	20	1.1	38.1	30.9	5000	5900			0.604
6015	75	115	20	1.1	39.7	33.5	4700	5600			0.649

# Серия 6200

Серия 6200

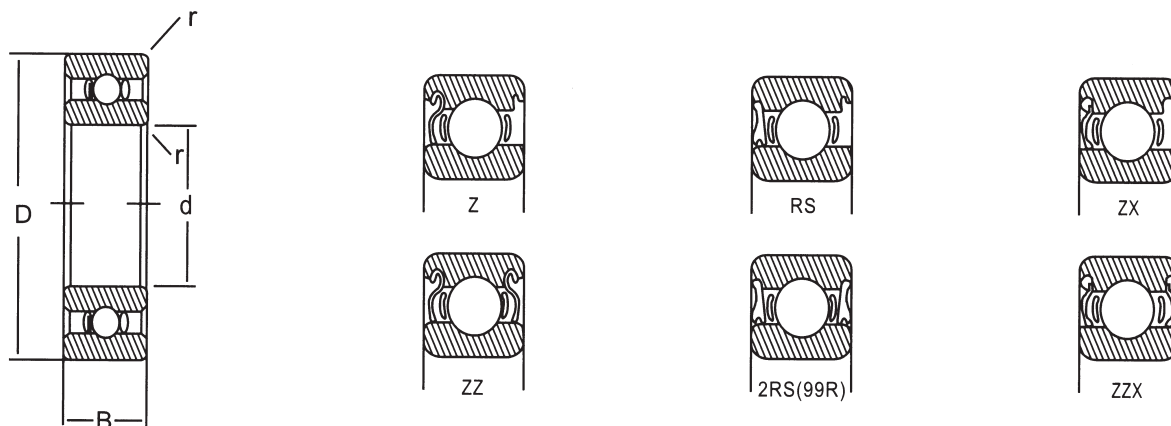


## Серия 6200

Номер подшипника	Размеры формы				Основная номинальная нагрузка кН		Максимальная скорость биения об./мин.		Комплект шариков		Вес кгс
	Отверстие d	Наружн. диам. D	Ширина B	Фаска г мин	Динамическая C <sub>d</sub>	Статическая C <sub>0g</sub>	Смазка	Масло	Кол-во	Размер	
<b>Серия 6200</b>											
623	3	10	4	0.15	0.50	0.22	38000	48000	-	-	0.0015
624	4	13	5	0.2	1.15	0.45	36000	45000	6	2.381	0.0032
625	5	16	5	0.3	1.88	0.68	32000	40000	6	3.175	0.0048
626	6	19	6	0.3	2.80	1.05	28000	36000	6	3.969	0.0075
627	7	22	7	0.3	3.28	1.35	26000	34000	7	3.969	0.012
628	8	24	8	0.3	3.35	1.40	24000	32000	7	3.969	0.017
629	9	26	8	0.3	4.45	1.95	22000	30000	7	4.763	0.019
6200	10	30	9	0.6	5.10	2.38	19000	26000	8	4.763	0.028
6201	12	32	10	0.6	6.82	3.05	18000	24000	7	5.953	0.034
6202	15	35	11	0.6	7.65	3.72	17000	22000	8	5.953	0.043
6203	17	40	12	0.6	9.58	4.47	16000	20000	8	6.747	0.062
6204	20	47	14	1.0	9.87	6.18	14000	18000	8	7.938	0.102
6205	25	52	15	1.0	10.75	10.02	12000	16000	9	7.938	0.120
6206	30	62	16	1.0	14.96	13.65	9500	13000	9	9.525	0.190
6207	35	72	17	1.1	19.74	15.92	8500	11000	9	11.1125	0.270
6208	40	80	18	1.1	22.70	17.70	8000	10000	9	12.000	0.370
6209	45	85	19	1.1	32.5	20.4	7800	9200	10	12.000	0.416
6210	50	90	20	1.1	35	23.2	7100	8300	10	12.700	0.462
6211	55	100	21	1.5	43.5	29.2	6400	7600	10	14.288	0.602
6212	60	110	22	1.5	52.5	36.0	6000	7000	10	15.081	0.789
6213	65	120	23	1.5	57.2	40.0	4400	5300			0.990
6214	60	125	24	1.5	62.2	44.1	4200	5000			1.070
6215	75	130	25	1.5	67.4	49.3	4000	4600			1.180

# Серии 6300 и 6800

Серии 6300 и 6800



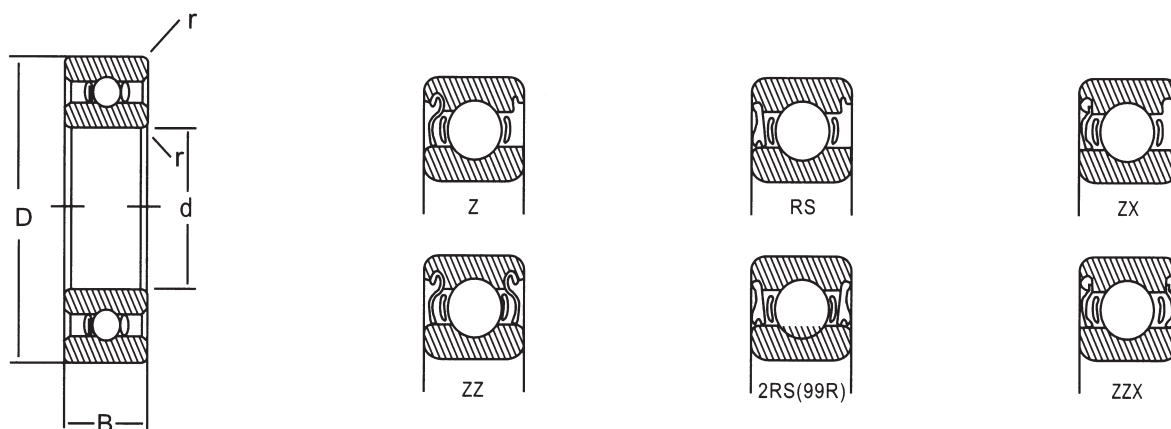
## Серии 6300 и 6800

Номер подшипника	Размеры формы				Основная номинальная нагрузка кН		Максимальная скорость биения об./мин.		Комплект шариков		Вес кгс
	Отверстие d	Наружн. диам. D	Ширина B	Фаска г мин	Динамическая C <sub>d</sub>	Статическая C <sub>0g</sub>	Смазка	Масло	Кол-во	Размер	
<b>Серия 6300</b>											
6300	10	35	11	0.6	7.65	3.480	20000	26000	6	7.144	0.054
6301	12	37	12	1.0	9.72	5.080	17000	22000	6	7.938	0.058
6302	15	42	13	1.0	11.50	5.420	16000	20000	7	7.938	0.082
6303	17	47	14	1.0	10.68	6.660	15000	19000	7	8.731	0.110
6304	20	52	15	1.1	12.25	7.790	13000	17000	7	9.525	0.140
6305	25	62	17	1.1	17.25	11.37	10000	14000	7	11.500	0.220
6306	30	72	19	1.1	21.66	14.80	9000	12000	8	12.000	0.330
6307	35	80	21	1.5	25.68	17.542	8000	10000	8	13.494	0.410
6308	40	90	23	1.5	31.36	22.25	7000	9000	8	15.081	0.600
6309	45	100	25	1.5	52.80	31.70	5600	6700			0.814
6310	50	110	27	2.0	61.80	37.90	5000	5800			1.070
6311	55	120	29	2.0	71.50	44.60	4400	5300			1.370
6312	60	130	31	2.1	81.80	51.90	4200	5000			1.730
6313	65	140	33	2.1	92.70	59.70	4000	4600			2.080
<b>Серия 6800</b>											
685	5	11	3	0.15	0.547	0.253	35000	45000	9	1.588	0.0011
686	6	13	3.5	0.15	0.331	0.400	33000	42000	8	2.000	0.0019
687	7	14	3.5	0.15	0.898	0.458	31000	40000	9	2.000	0.0021
688	8	16	4	0.2	1.378	0.711	29000	38000	9	2.381	0.0031
689	9	17	4	0.2	1.378	0.711	28000	36000	9	2.381	0.0032
6800	10	19	5	0.3	1.40	0.75	26000	34000	11	2.000	0.005
6801	12	21	5	0.3	1.40	0.90	22000	30000	12	2.381	0.007
6802	15	24	5	0.3	1.92	1.18	20000	28000	14	2.381	0.008
6803	17	26	5	0.3	2.18	1.28	19000	26000	15	2.381	0.019
6804	20	32	7	0.3	3.45	2.25	17000	22000	14	3.175	0.042
6805	25	37	7	0.3	3.70	2.65	15000	19000	16	3.175	0.048

Предприняты все возможные усилия для того, чтобы обеспечить правильность данных в этом каталоге. Challenge не несет никакой ответственности за любые неточности или причиненные повреждения. Все размеры приведены в миллиметрах, если не указано иное.

# Серии 6900 и 1600

Серии 6900 и 1600

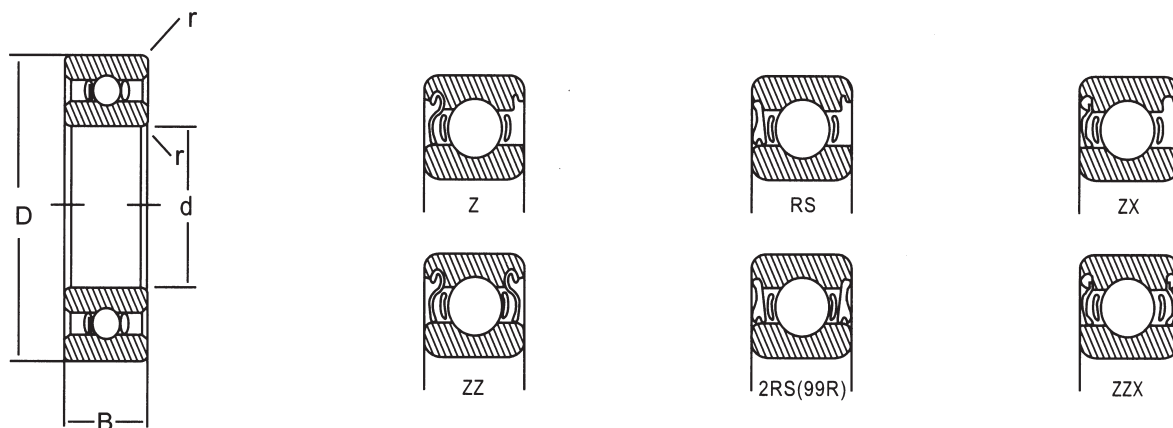


## Серии 6900 и 1600

Номер подшипника	Размеры формы				Основная номинальная нагрузка кН		Максимальная скорость биения об./мин.		Комплект шариков		Вес кгс
	Отверстие d	Наружн. диам. D	Ширина B	Фаска г мин	Динамическая C <sub>r</sub>	Статическая C <sub>0r</sub>	Смазка	Масло	Кол-во	Размер	
<b>Серия 6900</b>											
695	5	13	4	0.2	1.08	0.42	34000	43000	8	2.000	0.0024
696	6	15	5	0.2	1.48	0.60	32000	40000	8	2.381	0.0038
697	7	17	5	0.3	2.02	0.80	30000	38000	9	2.381	0.0052
698	8	19	6	0.3	2.25	0.92	28000	36000	7	3.500	0.0073
699	9	20	6	0.3	3.30	1.40	25000	34000	9	2.381	0.0082
6900	10	22	6	0.3	3.30	1.40	25000	32000	12	2.381	0.009
6901	12	24	6	0.3	3.38	1.48	20000	28000	9	3.500	0.011
6902	15	28	7	0	4.00	2.02	19000	26000	10	3.969	0.016
6903	17	30	7	3	4.30	2.32	18000	24000	11	3.969	0.018
6904	20	37	9	0.3	6.55	3.60	17000	22000	11	4.763	0.036
6905	25	42	9	0.3	7.05	4.55	14000	18000	13	4.763	0.042
6906	30	47	9	0.3	7.25	5.00	12000	16000	14	3.175	0.048
<b>Серия 1600</b>											
16001	12	28	7	0.3	5.08	2.38	28000	32000	8	4.763	0.019
16002	15	32	8	0.3	5.60	2.55	24000	28000	9	4.763	1.025
16003	17	35	8	0.3	6.82	3.38	22000	26000	10	4.763	0.027
16004	20	42	8	0.3	7.90	4.45	18000	20000	11	4.763	0.050
16005	25	47	8	0.3	8.42	5.15	15000	18000	12	5.556	0.060
16006	30	55	9	0.3	11.2	6.25	13000	15000	12	6.35	0.085
16007	35	62	9	0.3	11.5	8.80	11000	13000	14	6.35	0.100

Все размеры приведены в миллиметрах, если не указано иное. Предприняты все возможные усилия для того, чтобы обеспечить правильность данных в этом каталоге. Challenge не несет никакой ответственности за любые неточности или причиненные повреждения.

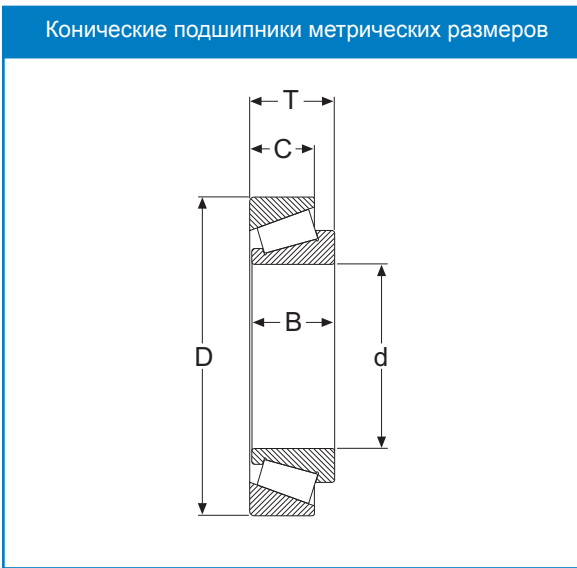
Серия R



Серия R

Номер подшипника	Размеры формы				Основная номинальная нагрузка кН		Максимальная скорость биения об./мин.		Комплект шариков		Вес кгс
	Отверстие d	Наружн. диам. D	Ширина B	Фаска г мин	Динамическая сг	Статическая Сог	Смазка	Масло	Кол-во	Размер	
<b>Серия R</b>											
R3	4.763	12.70	3.967	0.3	0.89	0.42	-	-	-	-	0.0015
R168	6.35	9.525	3.175	0.1	0.27	0.14	268	136	0.0006	2.381	0.0032
R188	6.35	12.70	3.175	0.15	0.83	0.37	830	370	0.0016	3.175	0.0048
R4	6.35	15.875	4.978	0.30	1.136	0.558	1136	558	0.0044	3.969	0.0075
R4A	6.35	19.05	5.556	0.40	2.175	1.163	2175	1163	0.0110	3.969	0.012
R6	9.525	22.225	5.556	0.40	2.56	1.35	2560	1350	0.0140	3.969	0.017
R6ZZ	9.525	22.225	7.142	0.40	2.56	1.35	2560	1350	0.0140	4.763	0.019
R8	12.70	28.575	6.350	0.40	3.93	2.23	3930	2230	0.0150	4.763	0.028
R8ZZ	12.70	28.575	9.535	0.40	3.93	2.23	3930	2230	0.0150	5.953	0.034
R10	15.875	34.925	7.142	0.60	4.62	2.79	4620	2790	0.0280	5.953	0.043
R12	19.05	41.275	7.938	0.60	7.24	4.46	7240	4463	0.0430	6.747	0.062
R14	22.225	47.625	9.525	0.60	7.74	4.96	7740	4960	0.0430	7.938	0.102
R16	25.4	50.80	9.525	0.60	7.74	5.16	7740	5160	0.0710	7.938	0.120
R18	28.575	53.975	12.7	0.7874	8.237	5.179	-	-	0.085	9.525	0.190
R20	31.75	57.15	12.7	0.7874	8.606	6.472	-	-	0.094	11.1125	0.270
R22	34.925	63.5	14.2875	0.7874	-	-	-	-	-	12.000	0.370
R24	38.1	66.675	14.2900	0.7874	-	-	-	-	-	12.000	0.416

# Конические подшипники метрических размеров



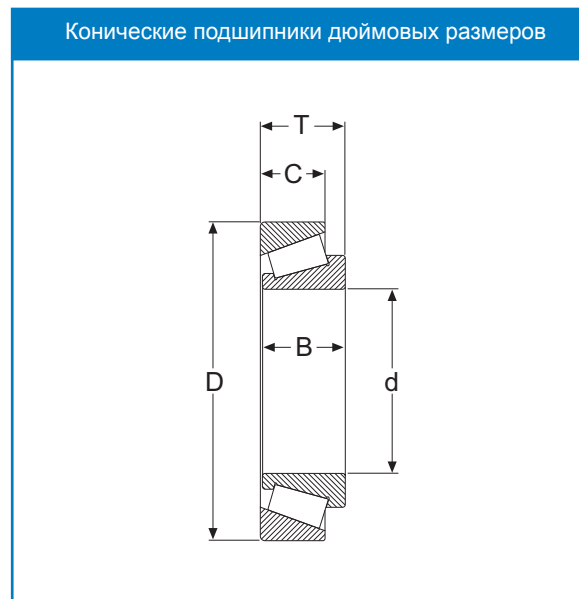
Номер подшипника	d	D	T	B	C	Вес кгс
30203	17	40	13.25	12	11	0.08
32203	17	40	17.25	16	14	0.10
30303	17	47	15.25	14	12	0.13
32004	20	42	15.00	15	12	0.11
30204	20	47	15.25	14	12	0.13
30304	20	52	16.25	15	13	0.18
32204	20	47	19.25	18	15	0.17
32304	20	52	22.25	21	18	0.25
32005	25	47	15.00	15	11.5	0.12
30205	25	52	16.25	15	13	0.16
30305	25	62	18.25	17	15	0.27
32205	25	52	19.25	18	16	0.18
32305	25	62	25.25	24	20	0.38
32006	30	55	17.00	17	13	0.17
30206	30	62	17.25	16	14	0.22
30306	30	72	20.75	19	16	0.45
32206	30	62	21.27	20	17	0.28
32306	30	72	28.75	27	23	0.59
33206	30	62	25.00	25	19.5	0.35
32007	35	62	18.00	18	14	0.23
30207	35	72	18.25	17	15	0.32
30307	35	80	22.75	21	18	0.53
32207	35	72	24.25	23	19	0.43
32307	35	80	32.75	31	25	0.83
33207	35	72	28.00	28	22	0.59
32008	40	68	19.00	19	14.5	0.29
30208	40	80	19.75	18	16	0.43
30308	40	90	25.25	23	20	0.77
32208	40	80	24.75	23	19	0.56
32308	40	90	35.25	33	27	1.2
33208	40	80	32.00	32	25	0.74

Номер подшипника	d	D	T	B	C	Вес кгс
32009	45	75	20.00	20	15.5	0.33
30209	45	85	20.75	19	16	0.5
30309	45	100	27.25	25	22	0.96
32209	45	85	24.75	23	19	0.57
32309	45	100	38.25	36	30	1.5
33209	45	85	32.00	32	25	0.79
32010	50	80	20.00	20	15.5	0.42
30210	50	90	21.75	20	17	0.54
30310	50	110	29.25	27	23	1.3
32210	50	90	24.75	23	19	0.6
32310	50	110	42.25	40	33	1.9
33210	50	90	32.00	32	24.5	0.85
32011	55	90	23.00	23	17.5	0.58
30211	55	100	22.75	21	18	0.7
30311	55	120	31.50	29	25	1.8
32211	55	100	26.75	25	21	1.21
32311	55	120	45.50	43	35	2.55
32012	60	95	23.00	23	17.5	0.63
30212	60	110	23.75	22	19	0.92
30312	60	130	33.50	31	26	2.1
32212	60	110	29.75	28	24	1.14
32312	60	130	48.50	46	37	3.15
32013	65	100	23.00	23	17.5	0.62
33113	65	110	34.00	34	26.5	0.62
30213	65	120	24.75	23	20	1.1
32213	65	120	32.75	31	27	1.59
32313	65	140	51.00	48	39	3.82
32014	70	110	25.00	25	19	0.97
32214	70	125	33.25	31	27	1.7
32215	75	130	33.25	21	27	1.93
32216	80	140	35.25	33	28	2.18

Все размеры приведены в миллиметрах, если не указано иное. Предприняты все возможные усилия для того, чтобы обеспечить правильность данных в этом каталоге. Challenge не несет никакой ответственности за любые неточности или причиненные повреждения.



# Конические подшипники дюймовых размеров



Номер подшипника	d	D	T	B	C	Вес кгс
11749/11710	17.46	39.88	13.84	14.61	10.67	0.083
09067/09195	19.05	45.24	16.64	15.49	12.07	0.180
11949/11910	19.05	45.24	15.49	16.64	12.07	0.125
12649/12610	21.43	50.01	17.53	18.23	13.97	0.172
44643/44610	25.40	50.29	14.22	14.73	10.67	0.118
84548/84510	25.40	57.15	19.43	19.43	14.73	0.254
44649/44610	26.99	50.29	14.22	14.73	10.67	0.108
45449/45410	29.00	50.29	14.73	14.22	10.67	0.104
86649/86610	30.16	64.29	21.43	21.43	16.67	0.339
15123/15245	31.75	62.00	18.16	19.05	14.29	0.237
2580/2523	31.75	69.85	25.36	23.81	19.05	0.451
67048/67010	31.75	59.93	15.88	11.81	16.76	0.186
48548/48510	34.93	65.09	18.03	18.29	13.97	0.259
88649/88610	34.93	72.23	25.40	25.40	19.84	0.483
68149/68110	35.00	59.13	15.88	16.76	11.94	0.173
68149/68111	35.00	59.98	15.88	16.76	11.94	0.174
29748/29710	38.10	65.09	18.03	18.29	13.97	0.233
29749/29710	38.10	65.09	18.03	18.29	13.97	0.236
18590/18520	41.28	73.03	16.67	17.46	12.70	0.288
501349/501310	41.28	73.43	19.56	19.81	14.73	0.337
25580/25520	44.45	82.93	23.81	25.40	19.05	0.558
25580/25522	44.45	83.06	23.81	25.40	19.05	0.553
102949/102910	45.24	73.43	19.56	19.81	15.75	0.316
25590/25520	45.62	82.93	23.81	25.40	19.05	0.538
104948/104910	50.00	82.00	21.50	21.50	17.00	0.419
3780/3720	50.80	93.26	30.16	30.30	23.81	0.854
506849/506810	55.00	90.00	23.00	23.00	18.50	0.558

## Компании группы Challenge

### АВСТРАЛИЯ

Challenge Power Transmission (Aust) Pty Ltd  
B11, Scoresby Industry Park  
Janine Street  
Scoresby  
Victoria 3179  
Australia  
Тел.: (03) 9763 6701 Факс: (03) 9764 0890  
Email: aussales@challengept.com

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### ЧЕШСКАЯ РЕСПУБЛИКА

Challenge PT (Czech) s.r.o  
Skopalikova 2600/47  
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Czech Republic  
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### ГЕРМАНИЯ

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D-35745 Herborn  
Germany  
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Email: desales@challengept.com

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### ИРЛАНДИЯ

Challenge Power Transmission (Ireland) Ltd  
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Holly Road  
Western Industrial Estate  
Dublin 12  
Eire  
Тел.: +353 1 4566311 Факс: +353 1 4566312  
Email: ireland@challengept.com

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### МАЛАЙЗИЯ

Challenge Power Transmission (M) Sdn Bhd  
No. 3 Jalan PJU 3/50  
Sunway Damansara  
47810 Petaling Jaya  
Selangor Darul Ehsan  
Malaysia  
Тел.: +603 7804 0407 Факс: +603 7804 4407  
Email: mysales@challengept.com

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### НИГЕРИЯ

Challenge Products Nigeria Ltd  
Plot 24  
Kudirat Abiloa Way  
Ikeja  
Lagos  
Nigeria  
Тел.: 01 791 5071 Факс: 01 497 2985  
Email: ngsales@challengept.com

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### СКАНДИНАВИЯ

Challenge Scandinavia AS  
Postboks 93  
Kalbakken  
0902 Oslo  
Norway  
Тел.: + 47 2216 5805 Факс: +47 2333 6117  
Email: scsales@challengept.com

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### КИТАЙ (Шицзячжуан)

Challenge Power Transmission (SHZ) Plc  
South of Daxizhang  
High Technology Developing Area  
Shijiazhuang 050035  
China  
Тел.: +86 311-85385510 Факс: +86 311 8538 5590  
Email: cnsales@challengept.com

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### ЮЖНАЯ АФРИКА

Challenge Power Transmission Africa (Pty) Ltd  
PO Box 30182  
Jet Park 1469  
Gauteng  
Republic of South Africa  
Тел.: +27 11 3976115 Факс: + 27 11 3978494  
Email: sasales@challengept.com

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### ВЕЛИКОБРИТАНИЯ

Challenge Power Transmission Plc  
Merryhills Enterprise Park  
Park Lane  
Wolverhampton  
WV10 9TJ  
United Kingdom  
Тел.: +44 1902 866116 Факс: +44 1902 866117  
Email: uk@challengept.com

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### КИТАЙ (Чжуцзи)

Challenge Power Transmission (Zhuji) Plc  
30 West Wangyun Road  
Zhuji  
Zhejiang 311800  
China  
Тел.: +86 575 8710 1617 Факс: +86 575 8710 1816  
Email: cnsales@challengept.com

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# CHALLENGE WORLDWIDE PLC AND GROUP OF COMPANIES TERMS OF SALE

## These Terms do not apply if you deal as a Consumer Your statutory rights are not affected by these conditions

### 1. DEFINITIONS

In these Terms of Sale the following meanings shall apply:

"We" and "Us"	means	CHALLENGE WORLDWIDE Plc
"You"	means	the person seeking to purchase Goods from Us.
"the Goods"	means	the goods or where the context permits the services to be supplied by Us.
"Company Signatory"	means	a person authorised by Us.
"the Terms"	means	the terms set out in this document and special terms agreed in writing between a Company Signatory and You or on Buyer's order.
"the Contract"	means	the contract for the supply of Goods incorporating these Terms.
"Consumer"	means	any natural person acting for purposes outside their trade, business or profession.
"the Defect"	means	the condition and/or any attribute of the Goods and/or any other circumstances which but for the effect of these Terms would have entitled You to damages.

### 2. THE CONTRACT

- All orders are accepted by Us only under these Terms and they may not be altered other than with the written agreement of a Company Signatory. Any contrary or additional terms unless so agreed are excluded.
- Quotations are invitations to treat only.
- Orders may be cancelled only with the written agreement of a Company Signatory and You will indemnify Us against all costs claims losses or expenses incurred as a result of that cancellation.
- You shall be responsible to Us for ensuring the accuracy of the terms of any order including any applicable design drawing or specification provided to Us by You and for giving Us any necessary information relating to the Goods within a sufficient time to enable Us to perform the Contract in accordance with its Terms.
- It is Your responsibility to be fully conversant with the nature and performance of the Goods, including any harmful effects their use may have.
  - Without prejudice to Clause 2.5.4 of these Terms while We take every precaution in the preparation of our catalogues technical circulars price lists and other literature these documents are for your general guidance only and statements included in these documents (in the absence of fraud on our part) shall not constitute representations by Us and We shall not be bound by them.
  - We undertake to comply with the Safety Legislation including, but not limited to the provision of any available information relating to the safety of the Goods to secure so far as reasonable practicable the health and safety of the users of the Goods.
  - You will comply with the Safety Legislation and agrees to indemnify and keep indemnified Us against Your failure to comply with the Safety Legislation. In particular, You shall indemnify Us against any and all claims or proceedings resulting from any injury, loss or damage caused by a failure to use the Goods in accordance with Our instructions whether such failure is on the part of the Your employees, contractors or agents or a third party to whom You have supplied the Goods.
  - We shall not be liable in respect of any misrepresentation made by Us our employees or agents to You our employees or agents as to the condition of the Goods their fitness for any purpose or as to quantity or measurements unless the representation is:
    - made or confirmed in writing by a Company Signatory; and/or
    - fraudulent
  - For the avoidance of doubt our liability for damages for misrepresentation (other than fraudulent) is excluded or limited by Clause 8 of these Terms.

### 3. PRICE

- The price of the Goods shall be as published in our price list current at the date of delivery of the Goods. The price is exclusive of VAT which shall be due at the rate ruling on the date of a VAT invoice.
- Prices listed or quoted are based on costs prevailing at the time when they are given or agreed. We shall be entitled to adjust the price of the Goods as at the time of delivery by such amount as may be necessary to cover any increase sustained by Us after the date of acceptance of your order and any direct or indirect costs of making obtaining handling or supplying the Goods.
- Prices listed or quoted are applicable to the quantity specified and on the information provided by You at the time of order. In the event of orders being placed for lesser quantities or if there is any change in specifications, delivery dates, or delay is caused by our instructions or lack of instructions we shall be entitled to adjust the price of the Goods as ordered to take account of the variations.
- We shall have the option of supplying any Goods ordered by You in imperial measurements in the nearest equivalent metric measurements and the Goods may be charged in metric measure allowing for conversions.

### 4. PAYMENT

- Unless other credit terms have been agreed in writing with a Company Signatory all accounts are due for payment on the last day of the month following the month in which the Goods are delivered.
- Late payments will incur interest at the rate of 5% per annum above the base rate of Barclays Bank Plc in force from time to time from the due date until the date of payment after as well as before judgement.
- Credit facilities may be withdrawn or reduced at any time in our sole discretion.
- Even if We have previously agreed to give You credit we reserve the right to refuse to execute any order or contract if the arrangements for payment or your credit rating is not satisfactory to Us. In our discretion We may require security satisfactory to Us or payment for each consignment when it is available and before it is despatched in which case delivery will not be effected until We are in receipt of security or cleared funds as requested by Us.
- In the case of short delivery You will remain liable to pay the full invoice price of all goods delivered or available for delivery.
- You may not withhold payment of any invoice or other amount due to Us by reason of any right of set off or counterclaim which You may have or allege to have for any reason whatever.
- We shall be entitled at all times to set off any debt or claim of whatever nature which We may have against You against any sums due from Us to You.

### 5. DELIVERY

- Delivery will be effected when the Goods leave our premises whether carried by Us or an independent carrier or the premises of our suppliers when the Goods are delivered direct from suppliers.
- Delivery dates are given in good faith but are estimates only.
- Time for delivery shall not be of the essence of the Contract.
- For the avoidance of doubt and without detracting from any other provisions of these Terms We shall not be liable for any damages whatsoever whether direct or indirect (including for the avoidance of doubt any liability to any third party) resulting from any delay in delivery of the Goods or failure to deliver the Goods in a reasonable time whether such delay or failure is caused by our negligence or otherwise howsoever.
- We reserve the right to make delivery by instalments and tender a separate invoice in respect of each instalment. Our failure to deliver any one or more instalments or any claim by You in respect of any one or more instalments shall not entitle You to treat the Contract as a whole as repudiated.
- The price agreed includes our normal delivery charges but We may make an additional charge if We incur further costs or expense such as (but not limited to) those caused by delivery of less than a full load; complying with your request for delivery outside our normal delivery pattern or trading hours or by instalments; orders of small value which are not economical for us to deliver free.
- You must provide the necessary labour for unloading the Goods and unloading is to be completed with reasonable speed. If our delivery vehicle is kept waiting for an unreasonable time or is obliged to return without completing delivery or if We provide additional staff to unload Goods an additional charge will be made.
- You may collect Goods from Us during our trading hours. If they are not collected within 14 days from when We notify You that they are available a storage charge will be payable before the Goods are released.
- If you fail to take delivery accept or collect the Goods within the agreed time in our discretion We may make an additional charge, invoice You for the Goods or treat the contract as repudiated and in any case recover our losses from You.
- If You collect Goods from Us You are solely responsible for the size weight and positioning of the load on the vehicle and shall indemnify Us in respect of all costs claims losses or expenses We may incur as a result of your collecting the Goods including any resulting from our negligence.

### 6. INSPECTION

- You shall inspect the Goods at the place and time of unloading or collection but nothing in these Terms shall require You to break packaging and/or unpack Goods which are intended to be stored before use.
- You must advise Us by telephone immediately and give Us written notice within three working days of unloading of any claim for short delivery.
- If You do not give Us that notice within that time the Goods will be deemed to have been delivered in the quantities shown in the delivery documents.
- You shall not be entitled and irrevocably and unconditionally waive any right to reject the Goods or claim any damages whatsoever for short delivery howsoever caused.
- Our liability for short delivery is limited to make good the shortage.
- Where it is or would have been apparent on a reasonable inspection that the goods are not in conformity with the Contract or (where the Contract is a contract for sale by sample) that the bulk does not compare with the sample You must advise Us by telephone immediately and give us written notice within three working days of inspection.
- If you fail to give Us that notice within that time the Goods will be deemed to have been accepted and You shall not be entitled and irrevocably and unconditionally waive any right to reject the Goods.
- If you fail to give Us that notice within that time Clause 8 shall have effect.

### 7. TITLE AND RISK

- Risk in the Goods shall pass to You when the Goods are delivered.
- The property in the Goods shall remain with Us until You pay all sums due to Us whether in respect of this Contract or otherwise.
- Until title passes:-
  - You shall hold the Goods as our fiduciary agent and bailee.
  - The Goods shall be stored separately from any other goods and You shall not interfere with any identification marks labels batch numbers or serial numbers on the Goods.
  - We agree that You may use or agree to use the Goods as principal and not as our agents in the ordinary course of your business subject to the express condition that at our direction the entire proceeds of any sale or insurance proceeds received in respect of the goods are held in trust for Us and not mixed with any other monies or paid into an overdraft bank account and shall at all times be identifiable as our money.
- We shall be entitled at any time to recover any or all of the Goods in your possession to which We have title and for that purpose We our employees or agents may with such transport as is necessary enter upon any premises occupied by You or to which You have access and where the Goods may be or are believed to be situated.

### 8. LIABILITIES

- Nothing in these Terms shall exclude or restrict our liability for death or personal injury resulting from our negligence or our liability for fraudulent misrepresentation.
- Subject to Clause 8.1 these Terms shall not be liable by reason of any misrepresentation (unless fraudulent) or any breach of warranty condition or other term express or implied or any breach of duty (common law or statutory) or negligence for any damages whatsoever. Instead of liability in damages We undertake liability under Clause 8.3 below.
- Where but for the effect of Clause 8.2 of these Terms You would have been entitled to damages against Us We shall not be liable to pay damages but subject to the conditions set out in Clause 8.4 below shall in our sole discretion either repair the Goods at our own expense or supply replacement Goods free of charge or refund all (or where appropriate part) of the price paid for the relevant Goods.
- We will not be liable under Clause 8.3:
  - If the Defect arises from fair wear and tear.
  - If the Defect arises from wilful damage negligence abnormal working conditions mis-use alteration or repair of the Goods failure to follow British Standard or industry instructions relevant to the

Goods or storage of the Goods in unsuitable conditions (but this sub-clause shall not apply to any act or omission on our part)

- Unless after discovery of the Defect we are given a reasonable opportunity to inspect the Goods before they are used or in any way interfered with. For the avoidance of doubt We acknowledge that the costs of suspending works are relevant to the determination of what is a reasonable opportunity and this sub-clause shall not apply to any works affecting the Goods which it may be reasonably necessary to carry out in the interests of safety and/or as emergency measures.
- If the Defect would have been apparent on a reasonable inspection under Clause 6.1 of these Terms at the time of unloading unless You advise Us by telephone immediately and written notice of any claim is given to Us within three working days of the time of unloading; or in any other case.
- The Defect is discovered within four months from the date of delivery and We are given written notice of the Defect within three working days of it being discovered.
- If the Goods are manufactured processed or milled by Us to the design quantity measure or specification of You or your agents then;
  - Subject to Clause 8.1 of these Terms We shall not be under any liability for damages whatsoever or under Clause 8.3 of these Terms as the case may be except in the event of:
    - Fraudulent misrepresentation.
      - Misrepresentation where the representation was made or confirmed in writing by a Company Signatory.
      - Non-compliance with such design quantity measurement or specification.
      - Breach of a written warranty signed by a Company Signatory that the Goods are fit for that purpose; or
      - SA claim maintainable against Us pursuant to Clause 8.1 of these Terms.
    - You will unconditionally fully and effectively indemnify Us against all loss damages costs on an indemnity basis and expenses awarded against or incurred by Us in connection with or paid or agreed to be paid by Us in settlement of any claim for infringement of any patents copyright design trademark or any other industrial or intellectual property rights of any other person.
    - You will further unconditionally fully and effectively indemnify Us against all loss damages costs on an indemnity basis and expenses awarded against or incurred by Us in connection with or paid or agreed to be paid by Us in settlement of any other claim arising from any such manufacturing processing or milling including but not limited to any Defect in the Goods. This indemnity will be reduced in proportion to the extent that such loss damage costs and expenses are due to our negligence.
    - You will unconditionally fully and effectively indemnify Us against all loss damages costs on an indemnity basis and expenses awarded against or incurred by Us in connection with or paid or agreed to be paid by Us in settlement of any claim by any third party arising from the supply or use of the Goods. This indemnity will be reduced in proportion to the extent that such loss damage costs and expenses are due to our negligence.
  - Without prejudice to any other provisions in these Terms in any event our total liability for any one claim or for the total of all claims arising from any one act of default on our part (whether arising from our negligence or otherwise) shall not exceed the purpose price of the goods the subject matter of any claim.

### 9. NON PAYMENT/INSOLVENCY

- "Insolvent" means You becoming unable to pay your debts within the meaning of Section 123 of the Insolvency Act 1986; the levying or the threat of execution or distress on any of your property; the appointment of a receiver or administrative receiver over all or any part of your property; a proposal for a voluntary arrangement or compromise between You and your creditors whether pursuant to the Insolvency Act 1986 or otherwise; the passing of a resolution for voluntary winding-up or summoning a meeting to pass such a resolution otherwise than for the purposes of a bona fide amalgamation or reconstruction; the presentation of a petition for your winding-up or for an administration order in relation to You; if You suffer any analogous step or proceedings under foreign law or You ceasing or threatening to cease to carry on your business.
- If you fail to pay the price for any Goods on the due date or fail to pay any sum due to Us under any contract on the due date or You become insolvent or if You are a Limited Company or partnership and there is a material change in your constitution or You commit a material breach of this Contract and fail to remedy that breach all sums outstanding between You and Us shall become immediately payable and We shall be entitled to do any one or more of the following (without prejudice to any other right or remedy We may have)
  - Require payment in cleared funds in advance of further deliveries.
  - Cancel or suspend any further deliveries to You under any contract without liability on our part.
  - Without prejudice to the generality of Clause 7 of these Terms exercise any of our rights pursuant to that clause.
  - If we reasonably incur third party costs such as tracing or debt collection agency costs or seek legal advice or take legal proceedings to enforce our rights as a result of your breach of this Contract including but not limited to recovery of any sums due, you will reimburse us such reasonable agency costs or legal costs incurred on an indemnity basis.

### 10. GENERAL

- This Contract shall be governed and interpreted according to the law of England and Wales and You agree to submit to the non-exclusive jurisdiction of the English Courts.
- We shall not be liable for any delay or failure to perform any of our obligations in relation to the Goods due to any cause beyond our reasonable control including industrial action.
- The waiver by Us of any breach or default of these Terms shall not be construed as a continued waiver of that breach nor as a waiver of any subsequent breach of the same or any other provision.
- If any clause or sub-clause of these Terms is held by a competent authority to be invalid or unenforceable the validity of the other clauses and sub-clauses of these Terms shall not be affected and they shall remain in full force and effect.
- We may assign novate or sub-contract all or part of this Contract and You shall be deemed to consent to any novation. This Contract is personal to You and it may not be assigned.
- Nothing in this Contract is intended to or will grant any right to any third party to enforce any terms of this contract whether express or implied.

