

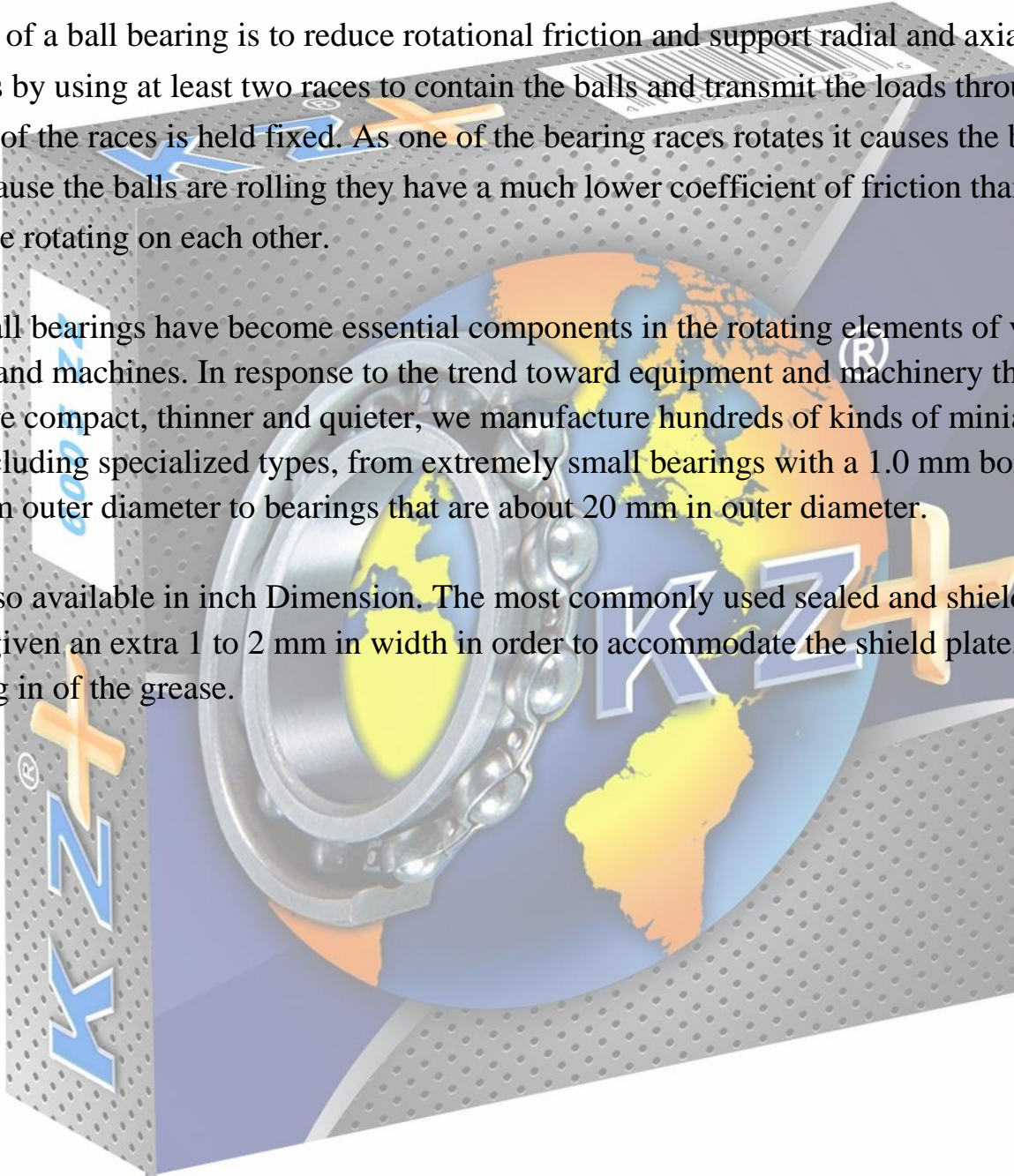
## **BALL & MINIATURE BALL BEARINGS**

A ball bearing is a type of rolling-element bearing which uses balls to maintain the separation between the moving parts of the bearing.

The purpose of a ball bearing is to reduce rotational friction and support radial and axial loads. It achieves this by using at least two races to contain the balls and transmit the loads through the balls. Usually one of the races is held fixed. As one of the bearing races rotates it causes the balls to rotate as well. Because the balls are rolling they have a much lower coefficient of friction than if two flat surfaces were rotating on each other.

Miniature ball bearings have become essential components in the rotating elements of various equipments and machines. In response to the trend toward equipment and machinery that gets smaller, more compact, thinner and quieter, we manufacture hundreds of kinds of miniature ball bearings, including specialized types, from extremely small bearings with a 1.0 mm bore diameter and a 3.0 mm outer diameter to bearings that are about 20 mm in outer diameter.

These are also available in inch Dimension. The most commonly used sealed and shielded bearings are usually given an extra 1 to 2 mm in width in order to accommodate the shield plate, and to allow sealing in of the grease.



BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		LIMITING SPEED(RPM)		Weight Kgs
					Dynamic	Static	Oil	Grease	
	d	D	B	r	C	Co	Lube	Lube	Kgs
604	4	12	4	0.20	0.97	0.36	53000	63000	1.800
605	5	14	5	0.20	1.30	0.48	50000	60000	3.500
606	6	17	6	0.30	2.60	1.05	35000	43000	5.800
607	7	19	6	0.30	2.60	1.05	40000	47000	7.600
608	8	22	7	0.30	3.35	1.40	28000	35000	12.000
609	9	24	7	0.30	3.35	1.40	33000	40000	15.000
626	6	19	6	0.30	2.60	1.05	35000	43000	8.900
627	7	22	7	0.30	3.30	1.35	31000	37000	13.000
628	8	24	8	0.30	3.35	1.40	28000	35000	18.000
629	9	26	8	0.60	4.55	1.95	27000	33000	20.000
686	6	13	3.5	0.15	1.10	0.44	48000	57000	1.800
687	7	14	3.5	0.15	1.50	0.51	45000	54000	2.000
689	9	17	4	0.20	1.35	0.66	39000	46000	3.500
695	5	13	4	0.20	1.10	0.43	50000	60000	2.200
696	6	15	5	2.00	1.75	0.67	45000	54000	3.900
697	7	17	5	3.00	1.60	0.71	42800	50000	5.300
698	8	19	6	3.00	2.25	0.91	39000	46000	7.200
699	9	20	6	0.30	2.45	1.05	35000	42000	7.500



BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		LIMITING SPEED(RPM)		Weight
					Dynamic	Static	Oil	Grease	
	d	D	B	r	C	Co	Lube	Lube	Kgs
6800	10	19	5	0.30	1.83	0.93	34000	40000	0.005
6801	12	21	5	0.30	1.92	1.04	32000	38000	0.006
6802	15	24	5	0.30	2.08	1.26	28000	34000	0.007
6803	17	26	5	0.30	2.81	1.72	26000	30000	0.008
6804	20	32	7	0.30	4.00	2.47	22000	26000	0.019
6805	25	37	7	0.30	4.30	2.95	18000	22000	0.022
6806	30	42	7	0.30	4.70	3.65	15000	18000	0.026
6807	35	47	7	0.30	4.90	4.05	13000	16000	0.029
6808	40	52	7	0.30	4.95	4.20	12000	14000	0.033
6809	45	58	7	0.30	6.20	5.40	11000	13000	0.040
6810	50	65	7	0.30	6.60	6.10	9500	11000	0.052
6811	55	72	9	0.30	8.80	8.10	8500	10000	0.083
6812	60	78	10	0.30	11.50	10.60	8000	9500	0.104
6813	65	85	10	0.60	11.90	11.50	7500	8500	0.126
6814	70	90	10	0.60	12.10	11.90	6700	8000	0.134
6815	75	95	10	0.60	12.50	12.90	6300	7500	0.142
6816	80	100	10	0.60	12.70	13.30	6000	7100	0.150
6817	85	110	13	1.00	18.70	19.00	5600	6700	0.266
6818	90	115	13	1.00	19.00	19.70	5300	6300	0.279
6819	95	120	13	1.00	19.30	19.70	5000	6000	0.305
6820	100	125	13	1.00	19.60	21.20	4800	5600	3.090

BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		LIMITING SPEED(RPM)		Weight
					Dynamic	Static	Oil	Grease	
	d	D	B	r	C	Co	Lube	Lube	Kgs
6900	10	22	6	0.30	2.70	1.25	32000	38000	0.010
6901	12	24	6	0.30	2.90	1.45	30000	36000	0.011
6902	15	28	7	0.30	4.30	2.25	26000	30000	0.017
6903	17	30	7	0.30	4.60	2.55	24000	28000	0.018
6904	20	37	9	0.30	6.35	3.70	19000	22000	0.036
6905	25	42	9	0.30	7.00	4.55	16000	19000	0.041
6906	30	47	9	0.30	7.25	5.00	14000	17000	0.045
6907	35	55	10	0.60	10.90	7.75	12000	15000	0.073
6908	40	62	12	0.60	13.70	9.95	11000	13000	0.112
6909	45	68	12	0.60	14.10	10.90	9500	12000	0.132
6910	50	72	12	0.60	14.50	11.70	9000	11000	0.133
6911	55	80	13	1.00	16.60	14.10	8000	9500	0.185
6912	60	85	13	1.00	20.20	17.30	7500	9000	1.104



BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		LIMITING SPEED(RPM)		Weight
					Dynamic	Static	Oil	Grease	
	d	D	B	r	C	Co	Lube	Lube	Kgs
16002	15	30	8	0.30	4.00	2.05	28000	22000	0.037
16003	17	35	8	0.30	6.00	3.25	26000	20000	0.044
16004	20	42	8	0.30	7.95	4.50	20000	17000	0.050
16005	25	47	8	0.30	8.40	5.10	18000	15000	0.058
16006	30	55	9	3.00	11.20	7.35	12000	15000	0.087
16007	35	62	9	0.30	12.20	8.85	13000	10000	0.111
16008	40	68	9	0.30	13.30	9.80	12000	9500	0.130
16009	45	75	10	0.60	15.50	12.30	11000	9000	0.170
16010	50	80	10	0.60	16.30	13.10	10000	8500	0.188
16011	55	90	11	0.60	19.30	16.30	9000	7500	0.260
16012	60	95	11	0.60	20.00	17.60	8500	7000	0.280
16013	65	100	11	0.60	22.90	19.60	7500	6300	0.300
16014	70	110	13	0.60	27.90	25.00	7000	6000	0.433
16015	75	115	13	0.60	28.50	26.80	6700	5600	0.460
16016	80	125	14	0.60	31.90	29.70	6300	5300	0.600
16017	85	130	14	1.00	33.80	33.50	6000	5000	0.630
16018	90	140	16	1.00	41.90	40.40	5300	4500	0.850
16019	95	145	24	1.50	60.50	53.60	5000	4300	1.200
16020	100	150	16	1.00	45.00	44.00	5000	4300	1.910

BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		LIMITING SPEED(RPM)		Weight
					Dynamic	Static	Oil	Grease	
	d	D	B	r	C	Co	Lube	Lube	Kgs
6000	10	26	8	0.30	4.55	1.95	31000	36000	0.019
6001	12	28	8	0.30	5.10	2.40	27000	32000	0.022
6002	15	32	9	0.30	5.60	2.85	23000	27000	0.030
6003	17	35	10	0.30	6.00	3.25	21000	25000	0.039
6004	20	42	12	0.60	9.40	5.05	17000	21000	0.069
6005	25	47	12	0.60	10.10	5.85	15000	18000	0.080
6006	30	55	13	1.00	13.20	8.25	13000	15000	0.116
6007	35	62	14	1.00	15.90	10.30	11000	13000	0.155
6008	40	68	15	1.00	16.70	11.50	10000	12000	0.192
6009	45	75	16	1.00	21.00	15.10	9200	11000	0.245
6010	50	80	16	1.00	21.80	16.60	8400	9900	0.261
6011	55	90	18	1.10	28.30	21.20	7600	8900	0.385
6012	60	95	18	1.10	29.40	23.20	7100	8400	0.415
6013	65	100	18	1.10	30.50	25.20	6600	7800	0.435
6014	70	110	20	1.10	38.10	30.90	6100	7200	0.602
6015	75	115	20	1.10	39.60	33.50	5700	6800	0.638
6016	80	125	22	1.10	47.60	39.80	5300	6300	0.850
6017	85	130	22	1.10	49.50	43.10	5000	5900	0.890
6018	90	140	24	1.50	58.20	49.70	4700	5600	1.160
6019	95	145	24	1.50	60.40	53.90	4400	5200	1.210
6020	100	150	24	1.50	60.20	54.20	4300	5100	1.250



BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		LIMITING SPEED(RPM)		Weight
					Dynamic	Static	Oil	Grease	
	d	D	B	r	C	Co	Lube	Lube	Kgs
6200	10	30	9	0.60	5.10	2.40	24000	29000	0.032
6201	12	32	10	0.60	6.80	3.05	22000	27000	0.037
6202	15	35	11	0.60	7.65	3.75	20000	24000	0.045
6203	17	40	12	0.60	9.55	4.80	17000	21000	0.065
6204	20	47	14	1.00	12.80	6.65	15000	17000	0.106
6205	25	52	15	1.00	14.00	7.85	13000	15000	0.128
6206	30	62	16	1.00	19.50	11.30	11000	13000	0.199
6207	35	72	17	1.10	25.70	15.40	9200	11000	0.288
6208	40	80	18	1.10	29.10	17.80	8300	10000	0.366
6209	45	85	19	1.10	32.70	20.30	7700	9200	0.407
6210	50	90	20	1.10	35.10	23.30	7100	8500	0.463
6211	55	100	21	1.50	43.40	29.40	6300	7600	0.607
6212	60	110	22	1.50	52.40	36.20	5700	6900	0.783
6213	65	120	23	1.50	57.20	40.10	5400	6400	0.990
6214	70	125	24	1.50	62.20	44.10	5100	6100	1.070
6215	75	130	25	1.50	67.40	48.30	4800	5800	1.180
6216	80	140	26	2.00	72.70	53.00	4500	5400	1.400
6217	85	150	28	2.00	84.00	61.90	4200	5000	1.790
6218	90	160	30	2.00	96.10	71.50	3900	4700	2.150
6219	95	170	32	2.10	109.00	81.90	3700	4400	2.620
6220	100	180	34	2.10	122.00	93.10	3500	4200	3.140
6221	105	190	36	2.10	133.00	105.00	3300	3900	3.700
6222	110	200	38	2.10	144.00	117.00	3100	3700	4.360

BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		LIMITING SPEED(RPM)		Weight Kgs
					Dynamic	Static	Oil	Grease	
	d	D	B	r	C	Co	Lube	Lube	
6300	10	35	11	0.60	8.10	3.45	22000	27000	0.053
6301	12	37	12	1.00	9.70	4.20	20000	25000	0.060
6302	15	42	13	1.00	11.40	5.45	17000	20000	0.082
6303	17	47	14	1.00	13.60	6.65	15000	18000	0.115
6304	20	52	15	1.10	15.80	7.85	14000	17000	0.144
6305	25	62	17	1.10	20.60	11.30	11000	13000	0.232
6306	30	72	19	1.10	26.70	15.00	9600	12000	0.346
6307	35	80	21	1.50	33.40	19.30	8500	10000	0.457
6308	40	90	23	1.50	40.70	24.00	7700	9200	0.633
6309	45	100	25	1.50	48.90	29.50	6800	8100	0.833
6310	50	110	27	2.00	62.00	38.30	6100	7300	1.070
6311	55	120	29	2.00	71.60	45.00	5600	6700	1.370
6312	60	130	31	2.10	81.90	52.20	5200	6200	1.700
6313	65	140	33	2.10	92.70	59.90	4800	5800	2.080
6314	70	150	35	2.10	104.00	68.20	4500	5400	2.520
6315	75	160	37	2.10	113.00	77.20	4200	5000	3.020
6316	80	170	39	2.10	123.00	86.70	3900	4700	3.590
6317	85	180	41	3.00	133.00	96.80	3700	4400	4.230
6318	90	190	43	3.00	143.00	107.00	3500	4200	4.910
6319	95	200	45	3.00	153.00	119.00	3300	4000	5.670
6320	100	215	47	3.00	173.00	141.00	3000	3600	7.000
6321	105	225	49	3.00	184.00	153.00	2900	3500	8.050
6322	110	240	50	3.00	205.00	180.00	2700	3200	9.540



BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		LIMITING SPEED(RPM)		Weight
					Dynamic	Static	Oil	Grease	
	d	D	B	r	C	Co	Lube	Lube	Kgs
6403	17	62	17	1.10	20.70	9.85	13000	15000	0.270
6404	20	72	19	1.10	31.00	15.2	11000	13000	0.400
6405	25	80	21	1.50	36.10	19.4	9100	11000	0.530
6406	30	90	23	1.50	43.40	23.9	8100	9700	0.735
6407	35	100	25	1.50	55.00	31	7200	8600	0.952
6408	40	110	27	2.00	63.70	36.6	6600	7900	1.230
6409	45	120	29	2.00	77.20	45.1	6000	7200	1.530
6410	50	130	31	2.10	83.00	49.5	5500	6600	1.880
6411	55	140	33	2.10	100.00	62.3	5000	6000	2.290
6412	60	150	35	2.10	110.00	70.8	4600	5500	2.770
6413	65	160	37	2.10	118.00	79.2	4300	5200	3.300
6414	70	180	42	3.00	144.00	104	3900	4600	4.830
6415	75	190	45	3.00	154.00	115	3600	4400	5.870

BEARING NUMBER	NOMINAL DIMENSIONS' [mm]			LOAD RATING(kN)		LIMITING SPEED(RPM)	Weight
				Dynamic	Static	Grease	
	d	D	B	C	Co	Lube	Kgs
62200 2RS	10	30	14	5.10	2.40	17000	0.040
62201 2RS	12	32	14	6.10	2.80	15000	0.050
62202 2RS	15	35	14	7.80	3.60	13000	0.050
62203 2RS	17	40	16	9.60	4.60	12000	0.080
62204 2RS	20	47	18	12.80	6.70	10000	0.130
62205 2RS	25	52	18	14.00	7.90	8500	0.150
62206 2RS	30	62	20	19.50	11.30	7500	0.240
62207 2RS	35	72	23	25.70	15.30	6300	0.370
62208 2RS	40	80	23	29.10	17.80	5600	0.440
62209 2RS	45	85	23	32.50	20.40	5000	0.480
62210 2RS	50	90	23	35.00	23.20	4800	0.520
62211 2RS	55	100	25	42.50	29.20	4300	0.700
62212 2RS	60	110	28	52.50	36.00	4000	0.970
62213 2RS	65	120	31	57.50	40.00	3600	1.250
62214 2RS	70	125	31	62.00	44.00	3400	1.300



BEARING NUMBER	NOMINAL DIMENSIONS' [mm]			LOAD RATING(kN)		LIMITING SPEED(RPM)	Weight
				Dynamic	Static	Grease	
	d	D	B	C	Co	Lube	Kgs
62300 2RS	10	35	17	8.20	3.50	15000	0.060
62301 2RS	12	37	17	9.70	4.20	14000	0.070
62302 2RS	15	42	17	11.40	5.50	12000	0.110
62303 2RS	17	47	19	13.50	6.60	11000	0.150
62304 2RS	20	52	21	15.90	7.90	9500	0.200
62305 2RS	25	62	24	21.20	10.90	7500	0.320
62306 2RS	30	72	27	26.70	15.00	6300	0.480
62307 2RS	35	80	31	33.50	19.10	6000	0.660
62308 2RS	40	90	33	40.50	24.00	5000	0.890
62309 2RS	45	100	25	53.00	32.00	4500	1.150
62310 2RS	50	110	27	62.00	38.50	4300	1.550
62311 2RS	55	120	29	71.50	45.00	3800	1.950
62312 2RS	60	130	31	82.00	52.00	3400	2.500
62313 2RS	65	140	33	92.50	60.00	3200	3.000
62314 2RS	70	150	35	104.00	68.00	3000	3.550

BEARING NUMBER	NOMINAL DIMENSIONS' [mm]			LOAD RATING(kN)		LIMITING SPEED(RPM)	Weight
				Dynamic	Static	Grease	
	d	D	B	C	Co	Lube	Kgs
63000 2RS	10	26	12	4.62	2.00	19000	0.025
63001 2RS	12	28	12	5.10	2.39	17000	0.029
63002 2RS	15	32	13	5.60	2.84	14000	0.039
63003 2RS	17	35	14	6.80	3.35	13000	0.052
63004 2RS	20	42	16	9.40	5.05	11000	0.086
63005 2RS	25	47	16	10.10	5.85	9500	0.100
63006 2RS	30	55	19	13.20	8.30	8000	0.160
63007 2RS	35	62	20	16.00	10.30	7000	0.210
63008 2RS	40	68	21	16.80	11.50	6300	0.260
63009 2RS	45	75	23	21.00	15.10	5600	0.340
63010 2RS	50	80	23	21.80	16.60	5000	0.370



BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		Weight
					Dynamic	Static	
	d	D	B	r	C	Co	Kgs
RLS 4	12.70	33.34	9.53	0.80	6.79	3.04	0.035
RLS 5	15.88	39.69	11.11	0.80	9.56	4.55	0.060
RLS 6	19.05	47.63	14.29	1.50	12.84	6.17	0.117
RLS 7	22.23	50.80	14.29	1.50	12.96	6.17	0.123
RLS 8	25.40	57.15	15.88	1.50	13.23	6.88	0.178
RLS 9	28.58	63.50	15.88	1.50	19.47	10.10	0.228
RLS 10	31.75	69.85	17.46	1.50	19.48	10.10	0.302
RLS 11	34.93	76.20	17.46	2.00	25.68	18.03	0.356
RLS 12	38.10	82.55	19.05	2.40	29.11	15.64	0.452
RLS 13	41.28	88.90	19.05	2.40	32.65	20.30	0.525
RLS 14	44.45	95.25	20.64	2.40	35.10	23.24	0.665
RLS 15	47.63	101.60	20.64	2.40	39.12	26.47	0.743
RLS 16	50.80	101.60	20.64	2.40	39.12	26.47	0.700
RLS 18	57.15	114.30	22.23	2.40	52.46	36.18	0.970
RLS 20	63.50	127.00	23.81	2.40	63.05	44.03	1.250

BEARING NUMBER	NOMINAL DIMENSIONS' [mm]				LOAD RATING(kN)		Weight
					Dynamic	Static	
	d	D	B	r	C	Co	Kgs
RMS 4	12.70	41.28	15.88	1.60	9.46	4.41	0.100
RMS 5	15.88	46.04	15.88	1.60	11.57	5.54	0.110
RMS 6	19.05	50.80	17.46	1.60	13.82	6.81	0.163
RMS 7	22.23	57.15	17.46	1.60	18.53	9.75	0.204
RMS 8	25.40	63.50	19.05	2.40	20.59	11.27	0.258
RMS 9	28.58	71.44	20.64	2.40	26.67	15.00	0.390
RMS 10	31.75	79.38	22.23	2.40	30.01	17.16	0.470
RMS 11	34.93	88.90	22.23	2.40	36.97	21.57	0.610
RMS 12	38.10	95.25	23.81	2.40	44.71	26.57	0.770
RMS 13	41.28	101.60	23.81	2.40	48.83	29.51	0.900
RMS 14	44.45	107.95	26.99	2.40	57.46	35.20	1.040
RMS 15	47.63	114.30	26.99	2.40	61.98	38.24	1.220
RMS 16	50.80	114.30	26.99	2.40	61.98	38.24	1.210
RMS 18	57.15	127.00	31.75	3.20	71.88	45.60	1.720
RMS 20	63.50	139.70	31.75	3.20	92.67	59.92	2.060