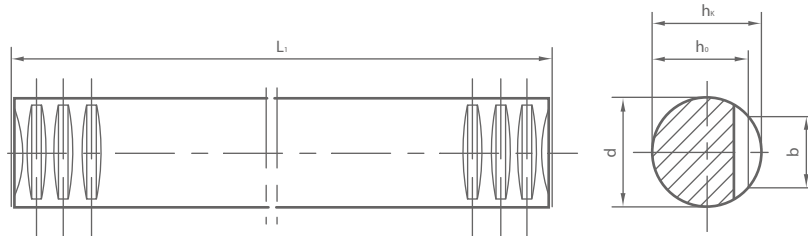




Gear & Racks

20° Pressure angle



Straight tooth system

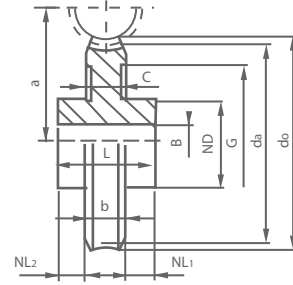
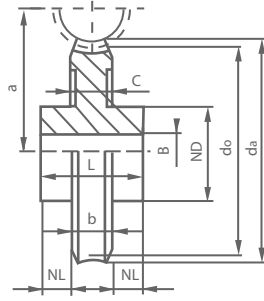
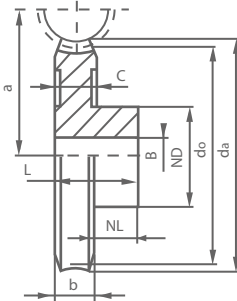
Module	L1	Ø d h11	b	hk	ho	kg
1	251.3	15	7.5	15	14.0	0.34
	499.5	15	7.5	15	14.0	0.66
	999.0	15	7.5	15	14.0	1.35
1.5	249.8	17	9.6	17	15.5	0.42
	499.5	17	9.6	17	15.5	0.84
	999.0	17	9.6	17	15.5	1.70
2	251.3	20	12.0	20	18.0	0.55
	502.7	20	12.0	20	18.0	1.10
	999.0	20	12.0	20	18.0	2.20
2.5	251.3	25	15.0	25	22.5	0.90
	502.7	25	15.0	25	22.5	1.80
	997.5	25	15.0	25	22.5	3.60
3	254.5	30	18.0	30	27.0	1.30
	499.5	30	18.0	30	27.0	2.50
	999.0	30	18.0	30	27.0	5.10
4	251.3	40	24.0	40	36.0	2.30
	502.6	40	24.0	40	36.0	4.50
	1005.3	40	24.0	40	36.0	9.10
5	251.3	50	30.0	50	45.0	3.80
	502.6	50	30.0	50	45.0	7.10
	1005.3	50	30.0	50	45.0	14.30

special notice

Material C 45k, Mat. No. 1.0503, of specially treated bright steel O h11 with a tensile strength of approx. 650 N/mm². Both ends of the racks are designed so that several racks can be linked to obtain any desired length. Please also see our guide pages on page E-16.



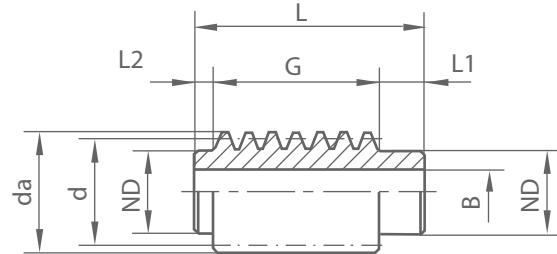
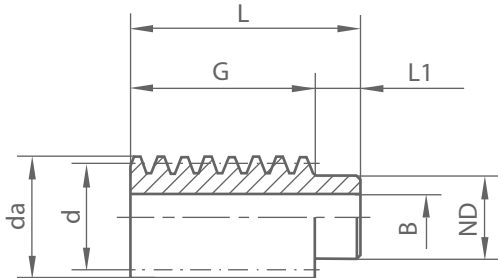
Worm gear & Worm



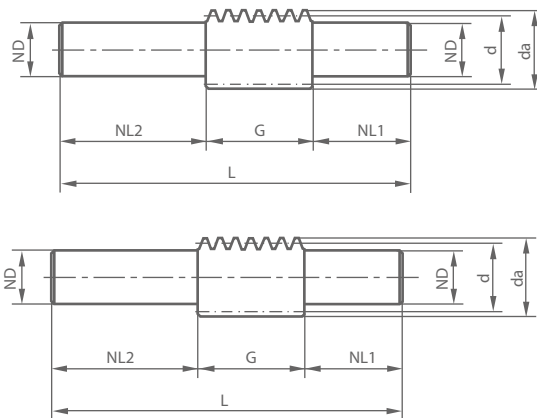
Module	Z	Ttpe		dp	da	ND	N N1/N2	L	G	C	a	BH7	Kg
1.0	16	1	16:1	16	18.8	12	8	14.5	-	-	15	5	0.02
	18	1	18:1	18	20.8	12	8	14.5	-	-	16	5	0.02
	20	1	20:1	20	22.8	16	8	14.5	-	-	17	5	0.03
	25	1	25:1	25	27.8	16	8	14.5	-	-	19.5	5	0.04
	35	1	35:1	35	37.8	16	10	16.5	-	-	24.5	6	0.07
	50	1	50:1	50	52.8	20	10	16.5	-	-	32	6	0.14
	75	1	75:1	75	77.8	30	10	16.5	-	4.5	44.5	6	0.20
	100	1	100:1	100	102.8	30	12	18.5	-	1.5	57	6	0.48
b=6.5	125	1	125:1	125	127.8	40	12	18.5	-	4.5	69.5	8	0.58
	150	1	150:1	150	152.8	40	12	18.5	-	4.5	82	8	0.59
	16	2	16:1	24	28.4	18	6	24	-	-	24.5	8	0.06
	18	2	18:1	27	31.7	20	8	28	-	-	26	8	0.08
	20	2	20:1	30	34.7	25	8	28	-	-	27.5	10	0.13
	30	2	30:1	45	49.7	30	8	28	-	-	35	10	0.26
	40	2	40:1	60	64.7	30	10	32	-	-	42.5	10	0.40
	50	2	50:1	75	79.7	30	10	32	-	10	50	10	0.44
b=12	75	2	75:1	112.5	117.2	40	10	32	-	10	68.75	12	0.86
	100	2	100:1	150	154.7	45	10	32	-	10	87.5	12	1.30
	16	2	16:1	32	37.6	20	8	30	-	-	32	8	0.14
	18	2	18:1	36	41.6	25	8	30	-	-	34	10	0.25
	20	2	20:1	40	45.6	30	10	34	-	-	36	12	0.55
	30	2	30:1	60	65.6	40	10	34	-	-	46	12	0.60
	40	2	40:1	80	85.6	40	10	34	-	11	56	12	0.65
	50	2	50:1	100	105.6	40	10	34	-	11	66	12	0.76
b=14	60	2	60:1	120	125.6	50	10	34	-	11	126	12	1.20
	16	3	16:1	48	57	40	18/4	46	-	-	43	15	0.46
	18	3	18:1	54	63	40	18/14	46	-	-	46	15	0.55
	20	3	20:1	60	69	40	18/14	46	-	-	49	15	0.64
	26	3	26:1	78	87	45	18/14	46	60	12	58	18	1.20
	32	3	32:1	96	105	50	18/14	46	70	12	67	20	1.40
	40	3	40:1	120	129	65	18/14	46	90	12	79	25	2.20
	52	3	52:1	147	156	75	23/4	51	110	12	97	30	3.40
6=24	65	3	65:1	195	204	85	23/4	51	150	12	116.5	35	4.90
	16	3	16:1	64	76	50	21/5	60	-	-	57	20	1.00
	18	3	18:1	72	84	50	21/5	60	-	-	67	20	1.50
	20	3	20:1	80	92	50	21/5	60	-	-	65	20	1.60
	26	3	26:1	104	116	55	21/5	60	80	14	77	22	2.10
	32	3	32:1	128	140	65	21/5	60	90	14	89	25	3.40
	40	3	40:1	160	172	75	21/5	60	125	14	105	30	4.50
	52	3	52:1	208	220	85	26/5	65	175	14	129	35	6.70
b=34	65	3	65:1	260	272	100	26/5	65	225	14	155	40	9.50
	16	3	16:1	80	95	70	27/5	72	-	-	71	20	2.30
	18	3	18:1	90	105	70	27/5	72	-	-	76	20	2.60
	20	3	20:1	100	115	70	27/5	72	-	-	81	25	3.00
	26	3	26:1	130	145	70	27/5	72	99	16	96	28	4.20
	32	3	32:1	160	175	75	27/5	72	125	16	111	30	5.30
	40	3	40:1	200	215	85	27/5	72	160	16	131	35	7.40
	52	3	52:1	260	275	100	32/5	77	220	16	161	40	11.80
b=40	65	3	65:1	325	340	115	32/5	77	280	16	193.5	45	17.00
	16	3	16:1	96	114	70	20/5	65	-	-	88	25	4.90
	18	3	18:1	108	126	70	20/5	65	-	-	94	25	5.85
	20	3	20:1	120	138	75	20/5	65	-	-	100	25	7.11
	25	3	25:1	150	168	75	25/5	70	120	16	115	30	8.95
	30	3	30:1	180	198	80	25/5	70	140	16	130	30	12.70
	40	3	40:1	240	258	85	30/5	75	200	16	160	30	17.85
	50	3	50:1	300	318	90	30/5	75	260	16	190	30	26.31
b=40	60	3	60:1	360	378	90	30/5	75	320	16	220	30	39.70



Worm gear & Worm



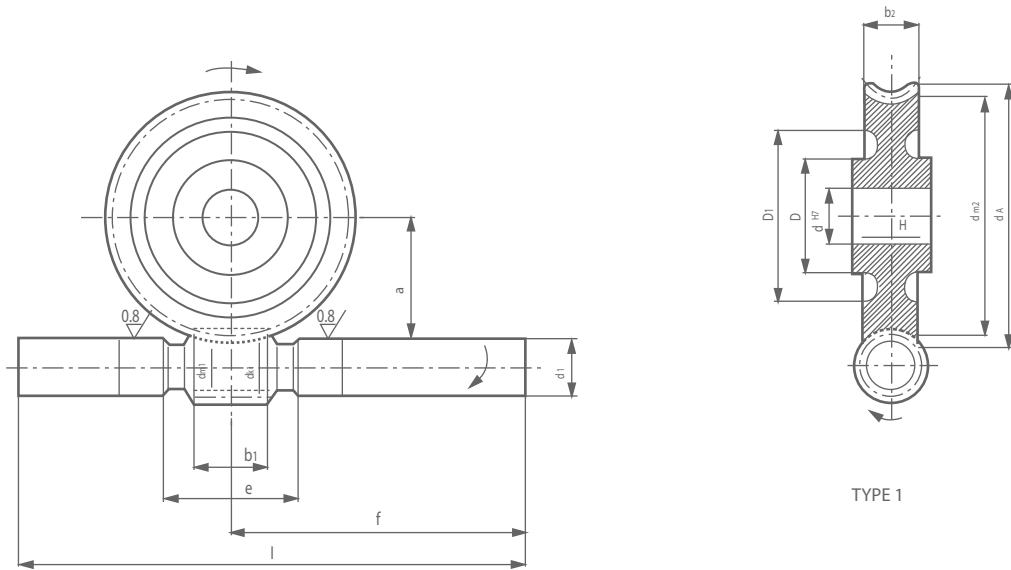
Module	Type	d	da	ND	L1	L2	G	L	B	kg
1.0	1	14	16	11	6	-	24	30	6	0.12
1.5	1	25	28	21	10	-	40	50	8	0.16
2.0	1	32	36	25	10	-	45	55	8	0.30
3.0	2	38	44	30	12	3	46	61	15	0.40
4.0	2	50	58	40	15	4	62	81	20	1.20
5.0	2	62	72	50	18	5	80	103	25	1.80
6.0	2	80	92	65	20	20	80	120	25	3.60



Module	Type	d	da	ND	NL1	G	NL2	L	kg
1.0	1	14	16	10	30	24	2	74	0.06
1.5	1	25	28	20	40	40	30	110	0.30
2.0	1	32	36	25	50	45	36	131	0.62
3.0	2	38	44	30	130	46	90	266	1.60
4.0	2	50	58	40	175	62	120	357	3.80
5.0	2	62	72	50	220	80	150	450	7.60
6.0	2	80	92	65	220	80	150	450	12.80



Worm gear & Worm



Centre distance a = 40mm

Type 1

Module	i	Z1	worm							z2	worm gear							Kg
			dm1	dk1	d1	b1	e	f	i		dm2	dA	b2	H	D	D1	dH7	
1.0	62:1	1	18.0	20.0	17.5	2.5	50	100	150	62	62.0	65.0	12	25	40	-	15	0.69
1.25	50:1	1	17.5	20.0	17.5	25	50	100	150	50	62.5	66.3	12	25	40	-	15	0.69
1.50	41:1	1	17.0	20.0	17.5	25	50	100	150	41	63.0	67.5	12	25	40	-	15	0.68
	20.5:1	2	17.0	20.0	17.5	25	50	100	150	41	63.0	67.5	12	25	40	-	15	0.68
20	29:1	1	20.0	24.0	17.5	28	50	100	150	29	60.0	66.0	14	25	40	-	15	0.71
	15:1	2	16.0	20.0	17.5	25	50	100	150	30	64.0	70.0	14	25	40	-	15	1.72
	6.75:1	4	16.0	20.0	17.5	25	50	100	150	27	64.0	70.0	14	25	40	-	15	0.72
2.5	12:1	2	19.5	24.5	17.5	30	50	400	150	24	60.5	68.0	16	25	40	-	15	0.73

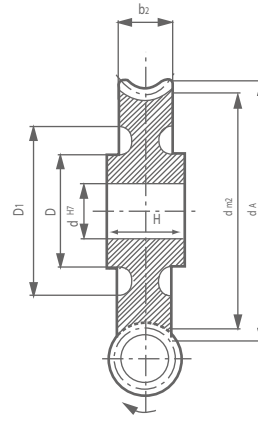
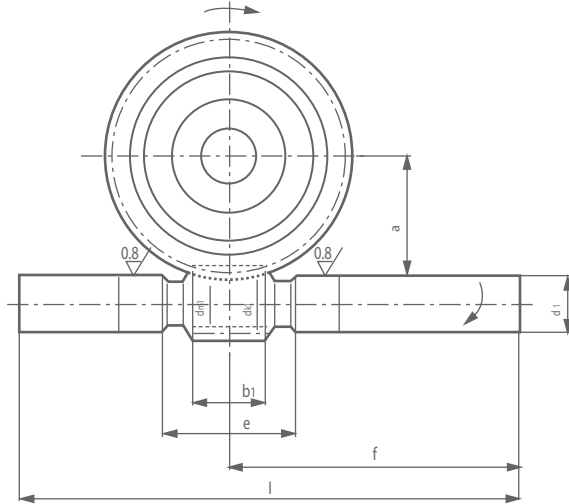
Centre distance a = 50mm

Type 1

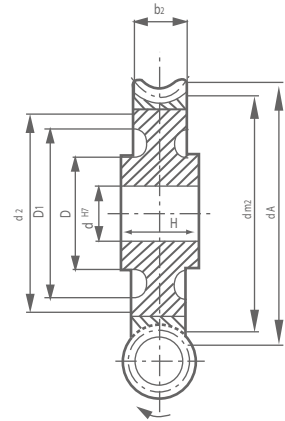
Module	i	Z1	worm							z2	worm gear							Kg
			dm1	dk1	d1	b1	e	f	i		dm2	dA	b2	H	D	D1	dH7	
1.0	82:1	1	17.0	19.0	17.5	25	50	115	180	82	83.0	86	12	30	50	61.0	20	1.00
1.25	62:1	1	23.4	24.9	20.5	25	50	115	180	62	77.6	81.0	15	30	50	-	20	1.20
1.5	52:1	1	21.0	24.0	20.5	28	60	115	180	52	29.0	83.5	14	30	50	66.0	20	1.20
	26:1	2	21.0	24.0	20.5	28	60	115	180	52	79.30	82.4	14	30	50	66.0	20	1.20
2.0	38:1	1	22.4	26.4	20.5	32	60	115	180	38	77.6	84.0	18	30	50	71.5	20	1.20
	19:1	2	22.4	26.4	20.5	32	60	115	180	38	77.6	84.0	18	30	50	71.5	20	1.20
	9:1	4	22.4	26.4	20.5	32	60	115	180	36	27.6	84.0	18	30	50	71.5	20	1.15
2.5	29:1	1	26.5	31.5	20.5	36	60	115	180	39	73.5	81.0	20	30	50	-	20	1.30
	14:1	2	26.5	31.5	20.5	36	60	115	180	28	73.5	81.0	20	30	50	-	20	1.30
	6.75:1	4	26.5	31.5	20.5	36	60	115	180	27	73.5	81.0	20	30	50	-	20	1.45
3.0	12:1	2	25.5	31.5	20.5	38.7	60	115	180	24	74.5	83.5	18	30	50	71.5	20	1.30



Worm gear & Worm



TYPE 1



TYPE 2

Centre distance a = 63mm

Type 1

Module	i	Z1	worm							z2	worm gear							Kg
			dm1	dk1	d1	b1	e	f	i		dm2	dA	b2	H	D	D1	dH7	
1.0	109:1	1	17.0	19.0	20.5	28	60	130	210	109	109.0	112	13	35	60	91	25	1.70
1.25	82:1	1	22.4	24.9	20.5	28	60	130	210	82	103.0	109	15	35	60	87	25	1.65
1.6	61:1	1	28.0	31.2	25.5	32	60	120	210	61	98.0	103	18	35	60	83	25	2.05
2.0	51:1	1	27.4	26.4	25.5	36	75	130	210	51	103.6	110	18	35	60	86	25	2.10
	25.5:1	2	22.4	26.4	25.5	36	75	130	210	51	103.6	110	18	35	60	86	25	2.10
2.0	12.25:1	4	22.4	26.4	25.5	36	75	130	210	49	103.6	110	18	35	60	86	25	2.00
	39:1	1	26.5	31.5	25.5	40	75	130	210	39	99.5	107	20	35	60	81	25	2.20
2.5	19.5:1	2	26.5	31.5	25.5	40	75	130	210	39	99.5	107	20	35	60	81	25	2.15
	9.25:1	4	26.5	31.5	25.5	40	75	130	210	37	99.5	107	20	35	60	81	25	2.20
3.15	29:1	1	33.5	39.8	25.5	45	75	130	210	29	92.5	102	26	35	60	79	25	2.30
	14.5:1	2	33.5	39.8	25.5	45	75	130	210	29	92.5	102	26	35	60	79	25	2.30
3.15	6.75:1	4	33.5	39.8	25.5	45	75	130	210	27	92.5	102	26	35	60	79	25	2.30

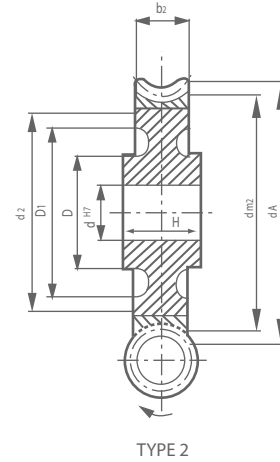
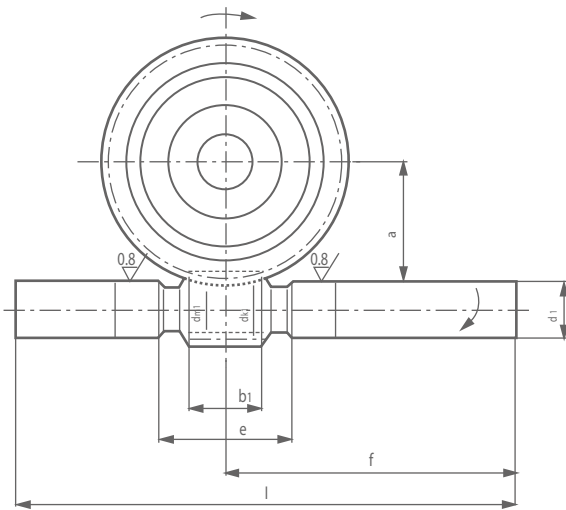
Centre distance a = 80mm

Type 2

Module	i	Z1	worm							z2	worm gear							Kg	
			dm1	dk1	d1	b1	e	f	i		dm2	dA	b2	H	dx	D	D1		dH7
1.25	109:1	1	22.4	24.9	25.5	34	70	170	270	109	137.6	141	16	119	50	70	95	30	3.15
1.6	82:1	1	28.0	31.2	30.5	38	80	170	270	82	132.0	137	20	110	50	70	87	30	3.80
2.0	62:1	1	35.5	39.6	30.5	40	80	170	270	62	124.5	131	22	104	50	70	85	30	3.90
2.5	53:1	1	26.5	31.5	30.5	46	95	170	270	53	133.5	141	22	109	50	70	87	30	3.80
	26:1	2	26.5	31.5	30.5	46	95	170	270	52	133.5	141	22	109	50	70	87	30	3.85
2.5	12.25:1	4	26.5	31.5	30.5	46	95	170	270	49	133.5	141	32	109	50	70	87	30	3.95
	40:1	1	33.5	39.8	30.5	50	95	170	270	40	126.5	136	26	100	50	70	80	30	4.10
3.15	19.5:1	2	33.5	39.8	30.5	50	95	170	270	39	126.5	136	26	100	50	70	80	30	4.15
	9.25:1	4	33.5	39.8	30.5	50	95	170	270	37	126.5	136	26	100	50	70	80	30	4.25
4.0	29:1	1	40.0	48.0	30.5	55	95	170	270	29	120.0	132	32	89	50	70	-	30	4.45
	14.5:1	2	40.0	48.0	30.5	55	95	170	270	29	120.0	132	32	89	50	70	-	30	4.45
4.0	6.75:1	4	40.0	48.0	30.5	55	95	170	270	27	120.0	132	32	89	50	70	-	30	4.50



Worm gear & Worm



Centre distance a = 100mm

Type 2

Module	i	Z1	worm							z2	worm gear							Kg	
			dm1	dk1	d1	b1	e	f	i		dm2	dA	b2	dx	H	D	D1		dH7
1.6	107:1	1	28.0	31.2	30.5	42	90	22.5	35.0	107	172	177	20	152	60	85	128	40	6.10
2.0	82:1	1	35.5	39.5	40.5	46	90	225	350	82	164.5	171	24	142	60	85	118	40	17.40
2.5	62:1	1	42.5	47.5	40.5	50	90	225	350	62	157.5	165	28	134	60	85	112	40	7.60
3.15	52:1	1	33.5	39.8	40.5	58	110	225	350	52	166.5	176	26	140	60	85	115	40	7.70
	36:1	2	33.5	39.8	40.5	58	110	225	350	52	166.5	176	26	140	60	85	115	40	7.50
	12.25:1	4	33.5	39.8	40.5	58	110	225	350	49	166.5	176	26	140	60	85	115	40	7.60
4.0	39:1	1	40.0	48.0	40.5	64	110	225	350	39	160.0	172	32	128	60	85	-	40	8.30
	19.5:1	2	40.0	48.0	40.5	64	110	225	350	39	160.0	172	32	128	60	85	-	40	8.30
	9.25:1	4	40.0	48.0	40.5	64	110	225	350	37	160.0	172	32	128	60	85	-	40	8.30
5.0	29:1	1	50.0	60.0	40.5	70	110	225	350	29	150.0	165	38	112	60	85	-	40	9.10
	14.5:1	2	50.0	60.0	40.5	70	110	225	350	29	150.0	165	38	112	60	85	-	40	9.10
	6.75:1	4	50.0	60.0	40.5	70	110	225	350	27	150.0	165	38	112	60	85	-	40	9.00

Centre distance a = 125mm

Type 2

Module	i	Z1	worm							z2	worm gear							Kg	
			dm1	dk1	d1	b1	e	f	i		dm2	dA	b2	dx	H	D	D1		dH7
2.0	107:1	1	35.5	39.5	40.5	52	105	255	410	107	214.5	221	24	192	70	105	168	50	4.9
2.5	82:1	1	42.5	47.5	45.5	58	105	255	410	82	207.5	215	28	184	70	105	160	50	13.0
3.15	62:1	53.0	59.3	50.5	64	105	255	410	62	197.0	207	34	179	70	105	145	50	14.60	
4.0	52:1	1	40.0	48.0	50.5	75	135	205	410	52	210.0	222	32	179	70	105	155	50	14.2
	25.5:1	2	40.0	48.0	50.5	75	135	255	410	51	210.0	222	32	179	70	105	155	50	14.5
	12:1	4	40.0	48.0	50.5	75	135	275	410	48	210.0	222	32	179	70	105	155	50	14.5
5.0	39:1	1	50.0	60.0	50.5	82	135	255	410	39	200.0	215	38	160	70	105	136	50	15.5
	19.5:1	2	50.0	60.0	50.5	82	135	255	410	39	200.0	215	38	160	70	105	136	50	13.7
	9:1	4	50.0	60.0	50.5	82	135	255	410	36	200.0	215	38	160	70	105	136	50	15.5
6.3	29:1	1	63.0	75.6	50.5	85	135	255	410	29	187.0	206	50	142	70	105	117	50	17.7
	14.5:1	2	63.0	75.6	50.5	85	135	255	410	29	187.0	206	50	142	70	105	117	50	17.6
	6.75:1	4	63.0	75.6	50.5	85	135	255	410	27	187.0	206	142	142	70	105	117	50	18.0