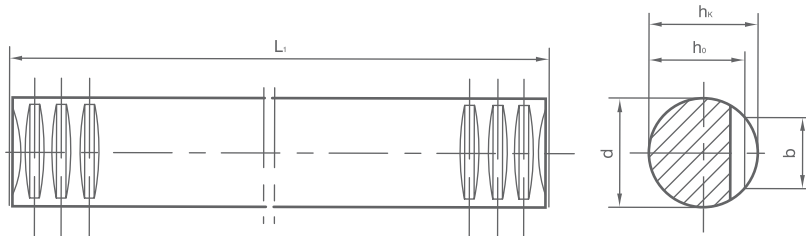


Gear & Racks

20° Pressure angle



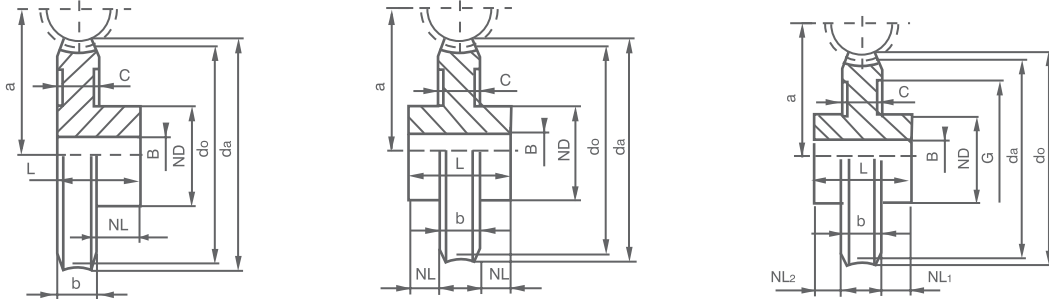
Straight tooth system

Module	L_1	$\varnothing d_{h11}$	b	h_k	h_o	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

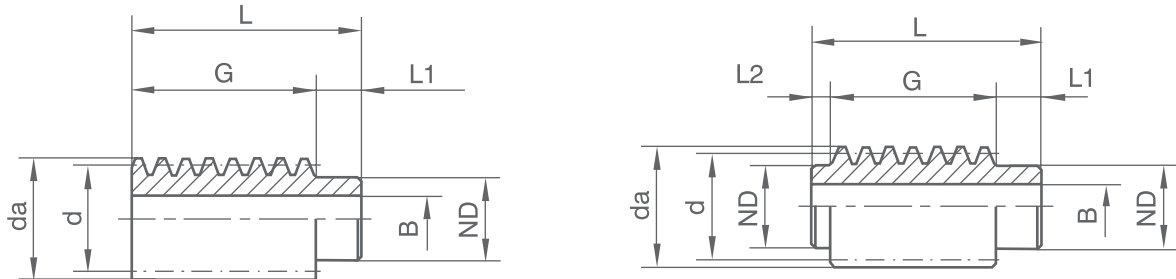
Material C 45k, Mat. No. 1.0503, of specially treated bright steel $\varnothing d_{h11}$ with a tensile strength of approx. 650 N/mm². Both ends of the racks are designed so that several racks can be linked together to obtain any desired length. Please also see our index on page E-16.

Worm gear & Worm

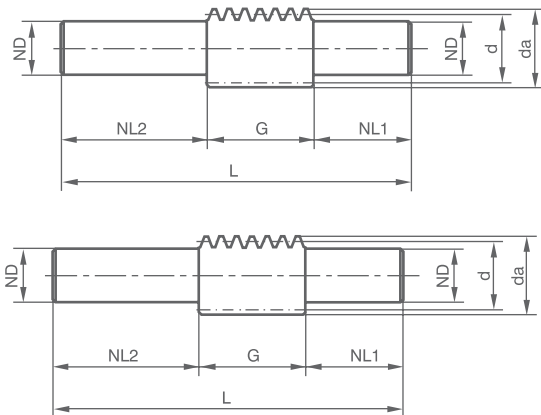


Module	Z	Ttpe		dp	da	ND	N N1/N2	L	G	C	a	BH7	Kg	
1.0	16	1	16:1	16	18.8	12	8	14.5	-	-	15	5	0.02	
	18	1	18:1	18	20.8	12	8	14.5	-	-	16	5	0.02	
	20	1	20:1	20	22.8	16	8	14.5	-	-	17	5	0.03	
	25	1	25:1	25	27.8	16	8	14.5	-	-	19.5	5	0.04	
	35	1	35:1	35	37.8	16	10	16.5	-	-	24.5	6	0.07	
	50	1	50:1	50	52.8	20	10	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	
	125	1	125:1	125	127.8	40	12	18.5	-	4.5	69.5	8	0.58	
1.5	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	
	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	
	2.0	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	
60		2	60:1	120	125.6	50	10	34	-	11	126	12	1.20	
3.0		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	
	65	3	65:1	195	204	85	23/4	51	150	12	116.5	35	4.90	
	4.0	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	
65		3	65:1	260	272	100	26/5	65	225	14	155	40	9.50	
5.0		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	
	65	3	65:1	325	340	115	32/5	77	280	16	193.5	45	17.00	
	6.0	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	
60		3	60:1	360	378	90	30/5	75	320	16	220	30	39.70	

Worm gear & Worm

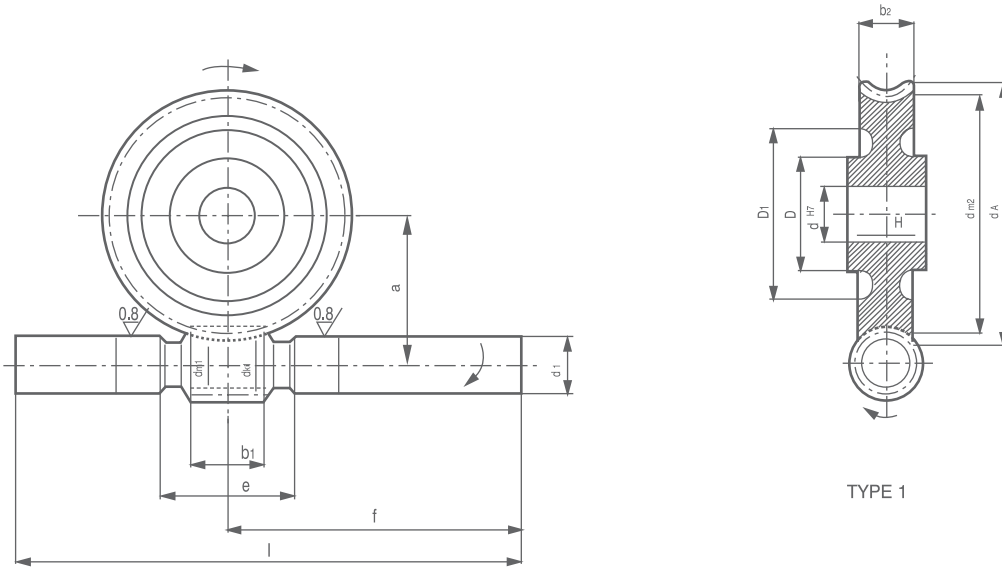


Module	Type	d	da	ND	L1	L2	G	L	B	kg
1.0	1	14	16	11	6	-	24	30	6	0.12
1.5	1	25	28	21	10	-	40	50	8	0.16
2.0	1	32	36	25	10	-	45	55	8	0.30
3.0	2	38	44	30	12	3	46	61	15	0.40
4.0	2	50	58	40	15	4	62	81	20	1.20
5.0	2	62	72	50	18	5	80	103	25	1.80
6.0	2	80	92	65	20	20	80	120	25	3.60



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 $a = 40\text{mm}$

Type 1

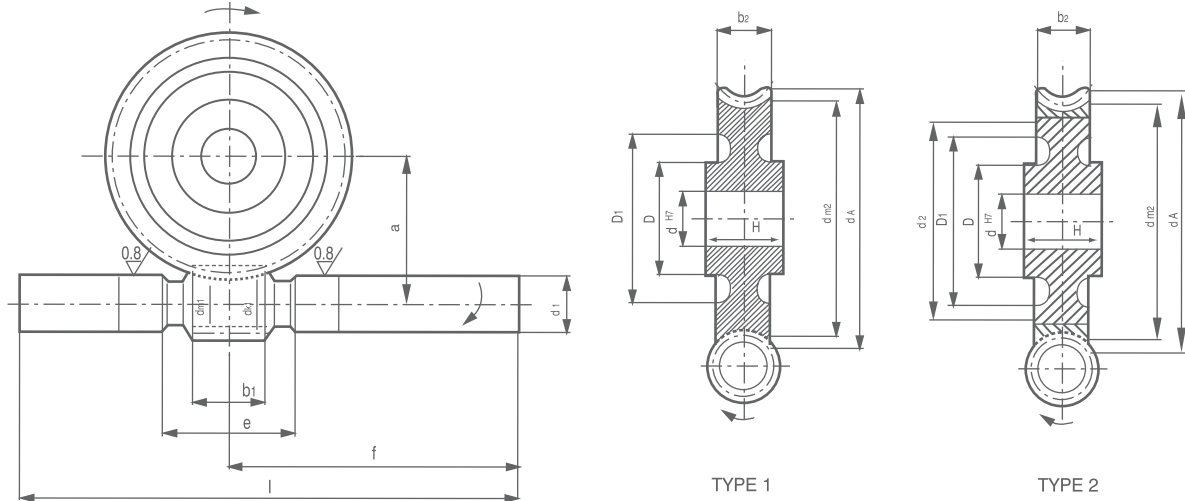
Module	i	Z1	worm							z2	worm gear							Kg
			dm1	dk1	d1	b1	e	f	i		dm2	dA	b2	H	D	D1	dH7	
1.0	62:1	1	18.0	20.0	17.5	2.5	50	100	150	62	62.0	65.0	12	25	40	-	15	0.69
1.25	50:1	1	17.5	20.0	17.5	2.5	50	100	150	50	62.5	66.3	12	25	40	-	15	0.69
1.50	41:1	1	17.0	20.0	17.5	2.5	50	100	150	41	63.0	67.5	12	25	40	-	15	0.68
	20.5:1	2	17.0	20.0	17.5	2.5	50	100	150	41	63.0	67.5	12	25	40	-	15	0.68
20	29:1	1	20.0	24.0	17.5	2.8	50	100	150	29	60.0	66.0	14	25	40	-	15	0.71
	15:1	2	16.0	20.0	17.5	2.5	50	100	150	30	64.0	70.0	14	25	40	-	15	1.72
	6.75:1	4	16.0	20.0	17.5	2.5	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	3.0	50	400	150	24	60.5	68.0	16	25	40	-	15	0.73

Centre distance $a = 50\text{mm}$

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	2.5	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	2.5	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	2.8	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	2.8	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	3.2	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	3.2	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	3.2	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	3.6	60	115	180	39	73.5	81.0	20	30	50	-	20	1.30
	14:1	2	26.5	31.5	20.5	3.6	60	115	180	28	73.5	81.0	20	30	50	-	20	1.30
	6.75:1	4	26.5	31.5	20.5	3.6	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	3.87	60	115	180	24	74.5	83.5	18	30	50	71.5	20	1.30

Worm gear & Worm



Centre distance a = 63mm

Type 1

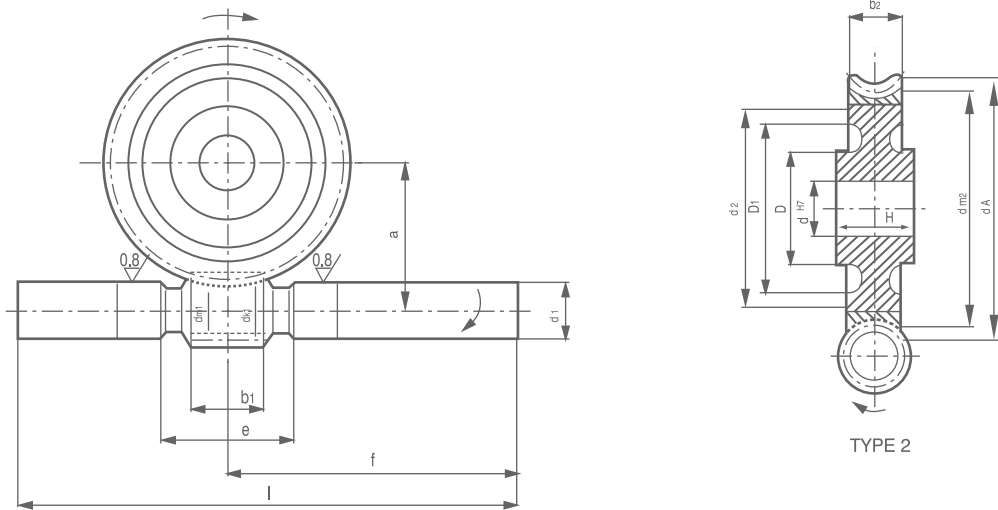
Module	i	Z1	worm							z2	worm gear							Kg
			dm1	dk1	d1	b1	e	f	i		dm2	dA	b2	H	D	D1	dH7	
1.0	109:1	1	17.0	19.0	20.5	28	60	130	210	109	109.0	112	13	35	60	91	25	1.70
1.25	82:1	1	22.4	24.9	20.5	28	60	130	210	82	103.0	109	15	35	60	87	25	1.65
1.6	61:1	1	28.0	31.2	25.5	32	60	120	210	61	98.0	103	18	35	60	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
	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
2.5	39:1	1	26.5	31.5	25.5	40	75	130	210	39	99.5	107	20	35	60	81	25	2.20
	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
	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
	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
3.15	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
	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
	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	70	169	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

Steel Stock Sprockets

FOR ROLLER CHAINS DIN8187-ISO/R 606



material:SUS304

06B 3/8" X 7/32"

Z	de	dp	dm	d	H
15	49.5	45.81	34	8	25
16	52.5	48.82	37	10	28
17	55.5	51.83	40	10	28
18	58.6	54.85	43	10	28
19	61.6	57.87	45	10	28
20	64.6	60.89	46	10	28
21	67.6	63.91	48	12	28
23	73.7	69.95	52	12	28
25	79.7	76.00	57	12	28
30	94.8	91.12	60	12	30

08B 1/2" X 5/16"

Z	de	dp	dm	d	H
13	57.9	53.06	37	10	28
14	61.9	57.07	41	10	28
15	65.9	61.09	45	10	28
16	69.9	65.10	50	12	28
17	74.0	69.11	52	12	28
18	78.0	73.14	56	12	28
19	82.0	77.16	60	12	28
20	86.0	81.19	64	12	28
21	90.1	85.22	68	14	28
23	98.1	93.27	70	14	28
25	106.2	101.33	70	14	28
30	126.3	121.50	80	16	30

10B 5/8" X 3/8"

Z	de	dp	dm	d	H
15	83.2	76.36	57	12	30
16	88.3	81.37	60	12	30
17	93.3	86.39	60	12	30
18	98.3	91.42	70	14	30
19	103.3	96.45	70	14	30
20	108.4	101.49	75	14	30
21	113.4	106.52	75	16	30
23	123.5	116.58	80	16	30
25	133.6	126.66	80	16	30
30	158.8	151.87	90	20	35

12B 3/4" X 7/16"

Z	de	dp	dm	d	H
13	87.8	79.59	58	16	35
14	93.8	85.61	64	16	35
15	99.8	91.63	70	16	35
16	105.8	97.65	75	16	35
17	111.9	103.67	80	16	35
18	117.9	109.71	80	16	35
19	123.9	115.75	80	16	35
20	130.0	121.78	80	16	35
21	136.0	127.82	90	20	40
23	148.1	139.90	90	20	40
25	160.2	152.00	90	20	40

16B 1" X 17.02mm

Z	de	dp	dm	d	H
13	117.7	106.12	78	16	40
14	125.7	114.15	84	16	40
15	133.7	122.17	92	16	40
16	141.8	130.20	100	20	45
17	149.8	138.22	100	20	45
18	157.8	146.28	100	20	45
19	165.9	154.33	100	20	45
20	173.9	162.38	100	20	45
21	182.0	170.43	110	20	50