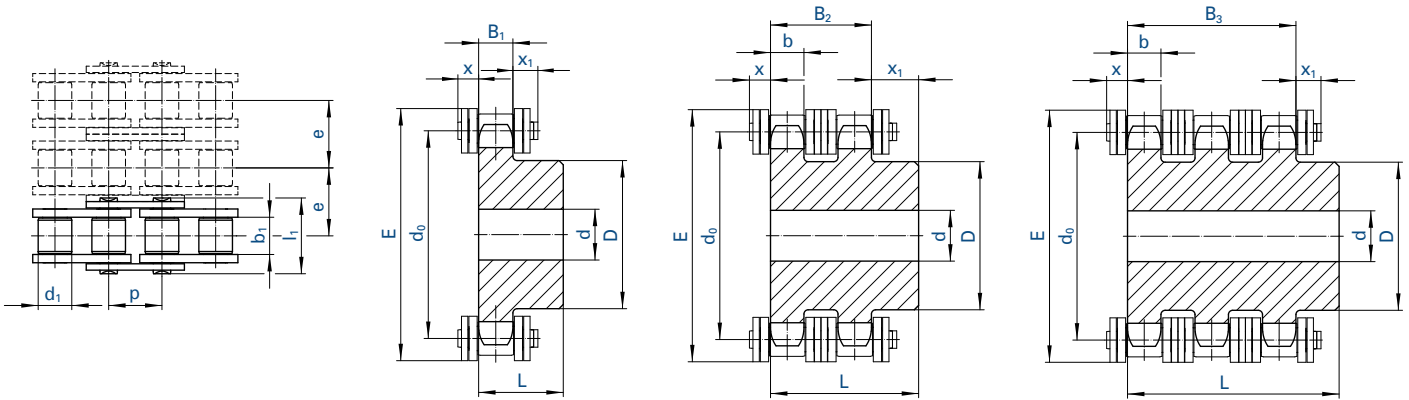


Chain		Pitch	Inner width	Roller Ø	Width over pin	Tooth width	Projection	
ISO		p	b ₁ min.	d ₁ max.	l ₁ max.	B ₁	x max.	x ₁ max.
No.	Ind.	No.	mm	mm	mm	mm	mm	mm
445		04	6,0	2,8	4,0	7,4	2,6	2,5
450		05B-1	8,0	3,0	5,0	8,6	2,8	5,4

Number of teeth	z	445 (04)					450 (05B-1)				
		d ₀	E _{max}	d	D	L	d ₀	E _{max}	d	D	L
	Ind.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10		19,42	25	6	13	10	25,89	34	8	17	12
11		21,30	27	6	14	10	28,40	36	8	18	13
12		23,18	29	6	16	10	30,91	39	8	20	13
13		25,07	31	8	18	10	33,43	41	8	23	13
14		26,96	33	8	20	10	35,95	44	8	25	13
15		28,86	35	8	20	10	38,48	46	8	28	13
16		30,75	36	8	20	13	41,01	49	8	30	14
17		32,65	38	8	20	13	43,54	51	8	30	14
18		34,55	40	8	20	13	46,07	54	8	30	14
19		36,45	42	8	20	13	48,60	57	8	30	14
20		38,36	44	8	20	13	51,14	59	8	30	14
21		40,26	46	8	25	13	53,68	62	8	35	14
22		42,16	48	8	25	13	56,21	64	8	35	14
23		44,06	50	8	25	13	58,75	67	8	35	14
24		45,97	51	8	25	13	61,29	69	8	35	14
25		47,87	53	8	25	13	63,83	72	8	35	14
26		49,78	55	8	30	15	66,37	74	10	40	16
27		51,68	57	8	30	15	68,91	77	10	40	16
28		53,59	59	8	30	15	71,45	79	10	40	16
29		55,49	61	8	30	15	73,99	82	10	40	16
30		57,40	63	8	30	15	76,53	84	10	40	16
32		61,21	67	8	30	15	81,62	90	10	40	16
34		65,03	71	8	30	15	86,70	94	10	40	16
35		66,93	73	8	30	15	89,25	97	10	40	16
36		68,84	75	8	30	15	91,79	100	10	40	16
38		72,66	78	8	30	15	96,88	105	10	40	16
40		76,47	82	8	30	15	101,96	110	10	40	16

* Possibly welded-on hub

Made of steel with a strength of 500 - 600 N/mm². We supply sprockets with custom bore and groove according to specifications. For details on orders and enquiries see page 106. Other sprockets on request.

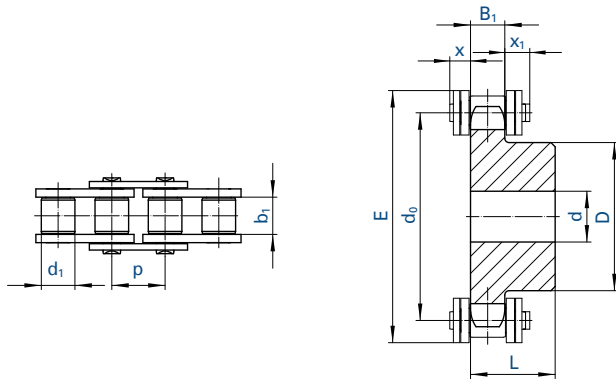


Chain		Pitch	Inner width	Roller Ø	Width over pin	Transverse pitch	Tooth width				Projection		
ISO		p	b ₁ min.	d ₁ max.	l max.	e	B ₁	b	B ₂	B ₃	x max.	x ₁ max.	
No.	Ind.	No.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
455		06B-1	9,525	5,72	6,35	13,5	-	5,3	-	-	-	4,5	7,8
D 455		06B-2	9,525	5,72	6,35	23,8	10,24	-	5,2	15,4	-	4,5	7,8
T 455		06B-3	9,525	5,72	6,35	34,0	10,24	-	5,2	-	25,6	4,5	7,8

Number of teeth	z	Ind.	d ₀	E _{max}	455 (06B-1)			D 455 (06B-2)			T 455 (06B-3)		
					d	D	L	d	D	L	d	D	L
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
10			30,82	40	8	20	22	8	20	22	-	-	-
11			33,81	43	8	22	25	10	22	25	-	-	-
12			36,80	46	8	25	25	10	25	25	-	-	-
13			39,80	49	10	28	25	10	28	25	10	28	35
14			42,81	52	10	31	25	10	31	25	-	-	-
15			45,81	55	10	34	25	10	34	25	12	34	35
16			48,82	58	10	37	28	12	37	30	-	-	-
17			51,84	61	10	40	28	12	40	30	12	40	35
18			54,85	64	10	43	28	12	43	30	-	-	-
19			57,87	67	10	45	28	12	46	30	12	46	35
20			60,89	70	10	46	28	12	49	30	-	-	-
21			63,91	73	12	48	28	12	52	30	14	52	40
22			66,93	76	12	50	28	12	55	30	-	-	-
23			69,95	79	12	52	28	12	58	30	14	58	40
24			72,97	82	12	54	28	12	61	30	-	-	-
25			76,00	85	12	57	28	12	64	30	14	64	40
26			79,02	88	12	60	28	12	67	30	-	-	-
27			82,05	92	12	60	28	12	70	30	14	70	40
28			85,07	95	12	60	28	12	73	30	-	-	-
29			88,10	98	12	60	28	12	76	30	-	-	-
30			91,12	101	12	60	30	12	79	30	14	79	40
31			94,15	104	14	65	30	-	-	-	-	-	-
32			97,18	107	14	65	30	16	80	30	-	-	-
33			100,20	110	14	65	30	-	-	-	-	-	-
34			103,23	113	14	65	30	-	-	-	-	-	-
35			106,26	116	14	65	30	-	-	-	-	-	-
36			109,29	119	16	70	30	-	-	-	-	-	-
37			112,31	122	16	70	30	-	-	-	-	-	-
38			115,34	125	16	70	30	16	90	30	16	90	40
39			118,37	128	16	70	30	-	-	-	-	-	-
40			121,40	131	16	70	30	16	90	30	-	-	-
38	*		115,34	125	19	70	32	19	80	40	-	-	-
45	*		136,55	146	19	70	32	-	-	-	23	90	56
57	*		172,91	182	19	70	32	19	80	40	23	90	56

* Cast iron GG22

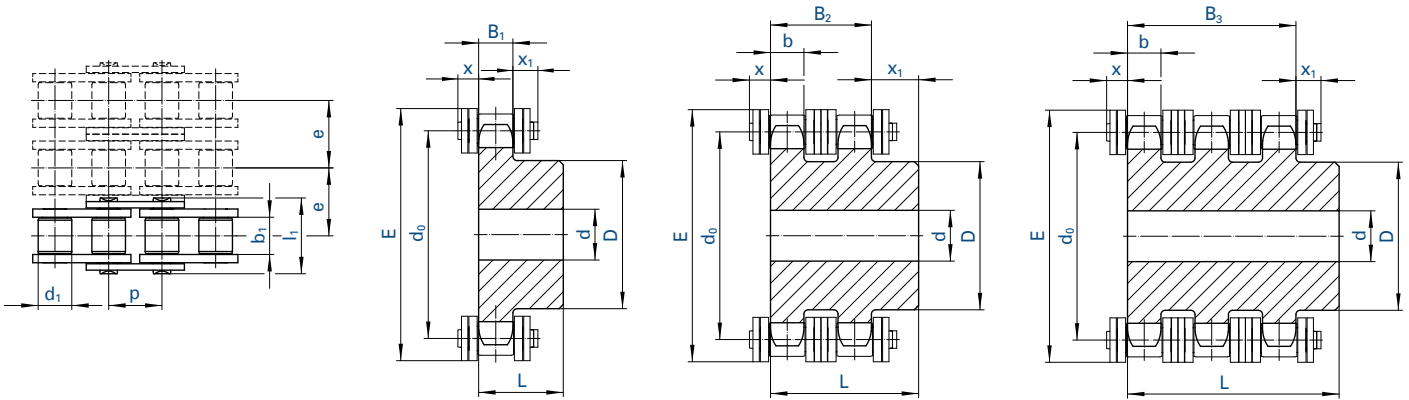
Made of steel with a strength of 500 - 600 N/mm². We supply sprockets with custom bore and groove according to specifications. For details on orders and enquiries see page 106. Other sprockets on request.



Chain		Pitch	Inner width	Roller Ø	Width over pin	Tooth width	Projection	
ISO		p	b ₁ min.	d ₁ max.	l ₁ max.	B ₁	x max.	x ₁ max.
No.	Ind.	No.	mm	mm	mm	mm	mm	mm
331		081	12,7	3,30	7,75	10,2	3,0	3,8
332		-	12,7	4,88	7,75	11,2	4,5	3,8

Number of teeth	z	331 (081)					332 / 17 / 18				
		d ₀	E _{max}	d	D	L	d ₀	E _{max}	d	D	L
	Ind.	mm	mm	mm	mm	mm	mm	mm	mm	mm	
10		41,10	51	8	28	14	41,10	51	8	28	14
11		45,08	55	8	31	16	45,08	55	8	31	16
12		49,07	59	8	35	16	49,07	59	8	35	16
13		53,07	63	8	39	16	53,07	63	8	39	16
14		57,07	67	8	43	16	57,07	67	8	43	16
15		61,08	71	8	47	16	61,08	71	8	47	16
16		65,10	75	10	50	18	65,10	75	10	50	18
17		69,12	79	10	50	18	69,12	79	10	50	18
18		73,14	84	10	50	18	73,14	84	10	50	18
19		77,16	88	10	50	18	77,16	88	10	50	18
20		81,18	92	10	50	18	81,18	92	10	50	18
21		85,21	96	12	60	20	85,21	96	12	60	20
22		89,24	100	12	60	20	89,24	100	12	60	20
23		93,27	104	12	60	20	93,27	104	12	60	20
24		97,30	108	12	60	20	97,30	108	12	60	20
25		101,33	112	12	60	20	101,33	112	12	60	20
26		105,36	116	16	70	20	105,36	116	16	70	20
27		109,40	120	16	70	20	109,40	120	16	70	20
28		113,43	124	16	70	20	113,43	124	16	70	20
29		117,46	128	16	70	20	117,46	128	16	70	20
30		121,50	132	16	70	20	121,50	132	16	70	20
34		-	-	-	-	-	137,64	148	16	70	20
36		-	-	-	-	-	145,72	156	16	70	25
38		-	-	-	-	-	153,79	165	16	70	25
40		-	-	-	-	-	161,87	173	16	70	25

Made of steel with a strength of 500 - 600 N/mm². We supply sprockets with custom bore and groove according to specifications. For details on orders and enquiries see page 106. Other sprockets on request.

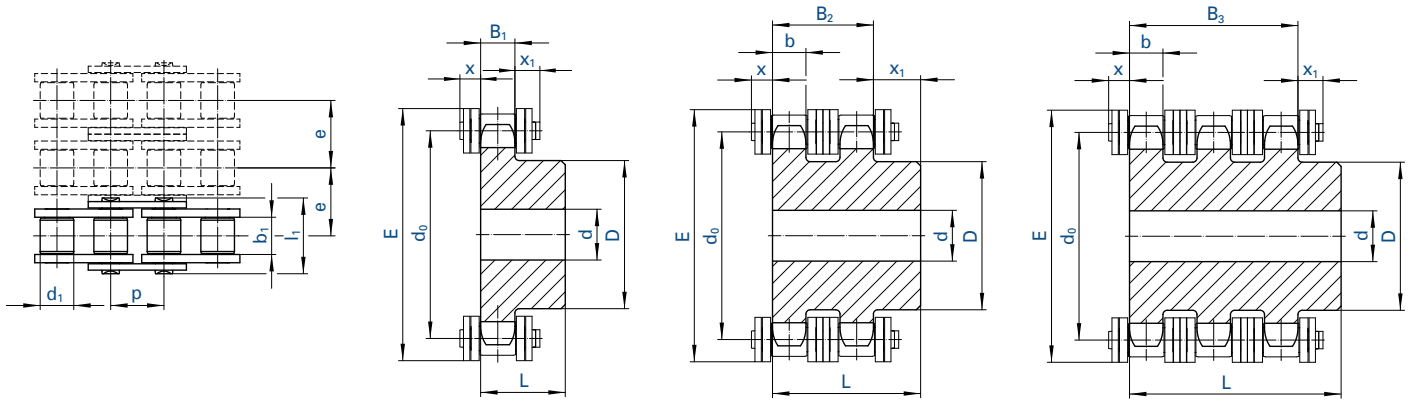


Chain		Pitch	Inner width	Roller Ø	Width over pin	Transverse pitch	Tooth width				Projection		
⚙	ISO	p	b ₁ min.	d ₁ max.	l max.	e	B ₁	b	B ₂	B ₃	x max.	x ₁ max.	
No.	Ind.	No.	mm	mm	mm	mm				mm	mm	mm	
462		08 B-1	12,7	7,75	8,51	17,0	-	7,2	-	-	-	5,4	9,3
D 462		08 B-2	12,7	7,75	8,51	31,0	13,92	-	7,0	21,0	-	5,4	9,3
T 462		08 B-3	12,7	7,75	8,51	44,9	13,92	-	7,0	-	34,9	5,4	9,3

Number of teeth	z	Ind.	d ₀	E _{max}	462 (08B-1)			D 462 (08B-2)			T 462 (08B-3)		
					d	D	L	d	D	L	d	D	L
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
10			41,10	54	10	26	25	10	28	32	-	-	-
11			45,08	58	10	29	25	12	32	35	-	-	-
12			49,07	62	10	33	28	12	35	35	-	-	-
13			53,07	66	10	37	28	12	38	35	14	38	50
14			57,07	70	10	41	28	12	42	35	-	-	-
15			61,08	74	10	45	28	12	46	35	14	46	50
16			65,10	78	12	50	28	14	50	35	-	-	-
17			69,12	82	12	52	28	14	54	35	16	54	50
18			73,14	86	12	56	28	14	58	35	-	-	-
19			77,16	90	12	60	28	14	62	35	16	62	50
20			81,18	94	12	64	28	14	66	35	-	-	-
21			85,21	98	12	68	28	16	70	40	20	70	55
22			89,24	102	12	70	28	16	70	40	-	-	-
23			93,27	106	14	70	28	16	70	40	20	70	55
24			97,30	110	14	70	28	16	75	40	-	-	-
25			101,33	114	14	70	28	16	80	40	20	80	55
26			105,36	118	16	70	30	20	85	40	-	-	-
27			109,40	122	16	70	30	20	85	40	20	85	55
28			113,43	126	16	70	30	20	90	40	-	-	-
29			117,46	130	16	80	30	20	95	40	-	-	-
30			121,50	134	16	80	30	20	100	40	20	100	55
31			125,53	138	16	90	30	-	-	-	-	-	-
32			129,57	142	16	90	30	20	100	40	-	-	-
33			133,61	146	16	90	30	-	-	-	-	-	-
34			137,64	150	16	90	30	-	-	-	-	-	-
35			141,68	154	16	90	30	20	100	40	-	-	-
36			145,72	158	16	90	35	20	110	40	-	-	-
37			149,75	162	16	90	35	-	-	-	-	-	-
38			153,79	166	16	90	35	20	110	40	25	120	55
39			157,83	170	16	90	35	-	-	-	-	-	-
40			161,87	174	16	90	35	20	110	40	-	-	-
38	*		153,79	166	-	-	-	23	90	50	23	100	60
45	*		182,06	195	19	70	40	-	-	-	-	-	-
57	*		230,54	243	19	70	40	23	90	50	23	100	60

* Cast iron GG22

Made of steel with a strength of 500 - 600 N/mm². We supply sprockets with custom bore and groove according to specifications. For details on orders and enquiries see page 106. Other sprockets on request.

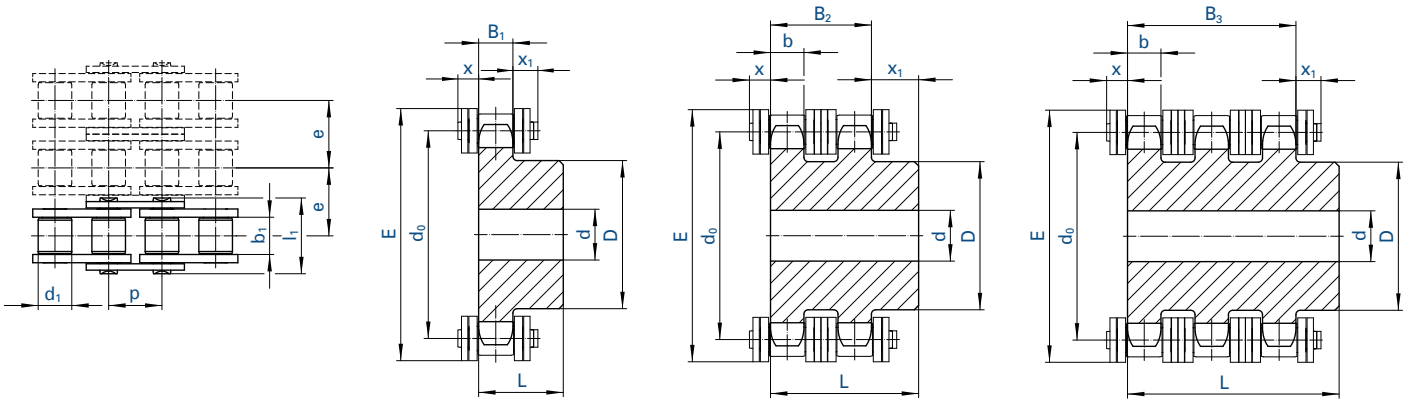


Chain		Pitch	Inner width	Roller Ø	Width over pin	Transverse pitch	Tooth width				Projection		
No.	Ind.	ISO	p	b ₁ min.	d ₁ max.	l max.	e	B ₁	b	B ₂	B ₃	x max.	x ₁ max.
		No.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
501		10 B-1	15,875	9,65	10,16	19,6	-	9,1	-	-	-	5,6	9,7
D 501		10 B-2	15,875	9,65	10,16	36,2	16,59	-	9,0	25,5	-	5,6	9,7
T 501		10 B-3	15,875	9,65	10,16	52,8	16,59	-	9,0	-	42,1	5,6	9,7

Number of teeth	z	Ind.	d ₀	E _{max}	501 (10B-1)			D 501 (10B-2)			T 501 (10B-3)		
					d	D	L	d	D	L	d	D	L
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
10			51,37	68	10	35	25	12	35	40	-	-	-
11			56,35	72	12	37	30	14	39	40	-	-	-
12			61,34	77	12	42	30	14	44	40	-	-	-
13			66,34	82	12	47	30	14	49	40	16	49	55
14			71,34	87	12	52	30	14	54	40	-	-	-
15			76,35	92	12	57	30	14	59	40	16	59	55
16			81,37	97	12	60	30	16	64	45	-	-	-
17			86,39	102	12	60	30	16	69	45	16	69	60
18			91,42	107	14	70	30	16	74	45	-	-	-
19			96,45	112	14	70	30	16	79	45	16	79	60
20			101,48	117	14	75	30	16	84	45	-	-	-
21			106,51	122	16	75	30	16	85	45	20	85	60
22			111,55	127	16	80	30	16	90	45	-	-	-
23			116,59	132	16	80	30	16	95	45	20	95	60
24			121,62	137	16	80	30	16	100	45	-	-	-
25			126,66	142	16	80	30	16	105	45	20	105	60
26			131,70	147	20	85	35	20	110	45	-	-	-
27			136,74	152	20	85	35	20	110	45	20	110	60
28			141,79	157	20	90	35	20	115	45	-	-	-
29			146,83	162	20	90	35	20	115	45	-	-	-
30			151,87	167	20	90	35	20	120	45	20	120	60
31			156,92	173	20	95	35	-	-	-	-	-	-
32			161,96	178	20	95	35	20	120	45	-	-	-
33			167,01	183	20	95	35	-	-	-	-	-	-
34			172,05	188	20	95	35	-	-	-	-	-	-
35			177,10	193	20	95	35	-	-	-	-	-	-
36			182,14	198	20	100	35	-	-	-	-	-	-
37			187,19	203	20	100	35	-	-	-	-	-	-
38			192,24	208	20	100	35	20	120	45	25	120	60
39			197,29	213	20	100	35	-	-	-	-	-	-
40			202,35	218	20	100	35	20	120	45	-	-	-
38	*		192,24	208	-	-	-	29	100	50	31	100	60
45	*		227,58	243	19	80	40	-	-	-	-	-	-
57	*		288,18	304	23	90	45	29	100	56	31	100	63

* Cast iron GG22

Made of steel with a strength of 500 - 600 N/mm². We supply sprockets with custom bore and groove according to specifications. For details on orders and enquiries see page 106. Other sprockets on request.

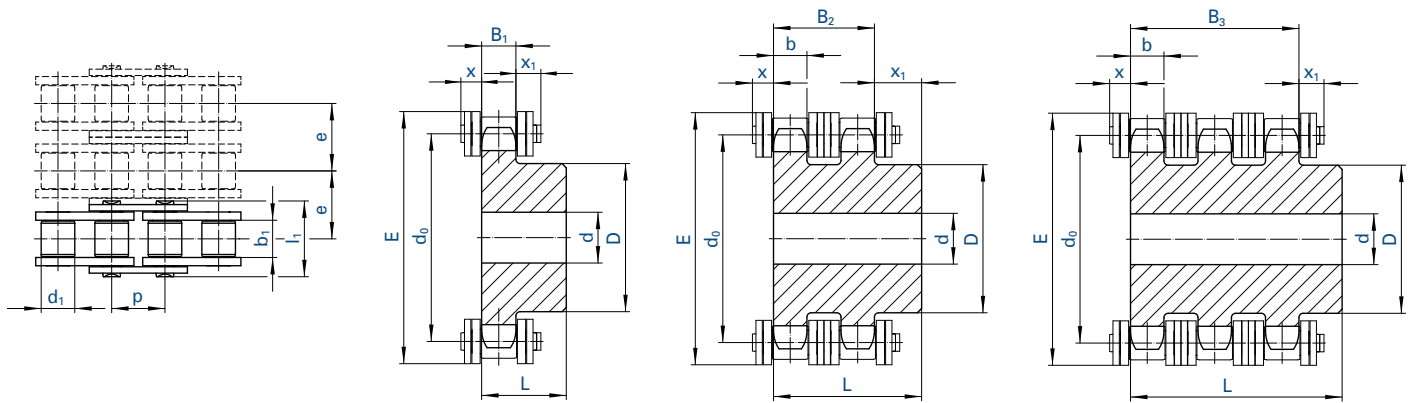


Chain		Pitch	Inner width	Roller Ø	Width over pin	Transverse pitch	Tooth width				Projection	
ISO	p	b_1 min.	d_1 max.	l max.	e	B_1	b	B_2	B_3	x max.	x_1 max.	
No.	Ind.	No.	mm	mm	mm	mm	mm	mm	mm	mm	mm	
513		12 B-1	19,05	11,68	12,07	22,7	-	11,1	-	-	6,4	11,0
D 513		12 B-2	19,05	11,68	12,07	42,2	19,46	-	10,8	30,3	6,4	11,0
T 513		12 B-3	19,05	11,68	12,07	61,7	19,46	-	10,8	-	6,4	11,0

Number of teeth	z	Sprocket Dimensions (mm)										
		d_0	E_{max}	513 (12 B-1)			D 513 (12 B-2)			T 513 (12 B-3)		
Ind.	mm	mm	d	D	L	d	D	L	d	D	L	
10		61,65	79	12	42	30	12	42	45	-	-	-
11		67,62	85	14	46	35	16	47	50	-	-	-
12		73,6	91	14	52	35	16	53	50	-	-	-
13		79,6	97	14	58	35	16	59	50	20	59	70
14		85,61	103	14	64	35	16	65	50	-	-	-
15		91,62	109	14	70	35	16	71	50	20	71	70
16		97,65	115	16	75	35	20	77	50	-	-	-
17		103,67	121	16	80	35	20	83	50	20	83	70
18		109,71	127	16	80	35	20	89	50	-	-	-
19		115,74	133	16	80	35	20	95	50	20	95	70
20		121,78	139	16	80	35	20	100	50	-	-	-
21		127,82	145	20	90	40	20	100	50	20	100	70
22		133,86	151	20	90	40	20	100	50	-	-	-
23		139,9	157	20	90	40	20	110	50	20	110	70
24		145,95	163	20	90	40	20	110	50	-	-	-
25		151,99	169	20	90	40	20	120	50	20	120	70
26		158,04	176	20	95	40	20	120	50	-	-	-
27		164,09	182	20	95	40	20	120	50	-	-	-
28		170,14	188	20	95	40	20	120	50	-	-	-
29		176,2	194	20	95	40	20	120	50	-	-	-
30		182,25	200	20	95	40	20	120	50	20	120	70
31		188,3	206	20	100	40	-	-	-	-	-	-
32		194,35	212	20	100	40	-	-	-	-	-	-
33		200,41	218	20	100	40	-	-	-	-	-	-
34		206,46	224	20	100	40	-	-	-	-	-	-
35		212,52	230	20	100	40	-	-	-	-	-	-
36		218,57	236	20	100	40	-	-	-	-	-	-
37		224,63	242	20	100	40	-	-	-	-	-	-
38		230,69	248	20	100	40	25	120	50	25	130	70
39		236,74	254	20	100	40	-	-	-	25	130	70
40		242,8	260	20	100	40	25	120	50	-	-	-
38	*	230,69	248	-	-	-	23	130	63	31	140	70
45	*	273,09	290	23	100	56	-	-	-	-	-	-
57	*	345,81	363	29	100	56	29	130	63	39	140	70

* Cast iron GG22

Made of steel with a strength of 500 - 600 N/mm². We supply sprockets with custom bore and groove according to specifications. For details on orders and enquiries see page 106. Other sprockets on request.

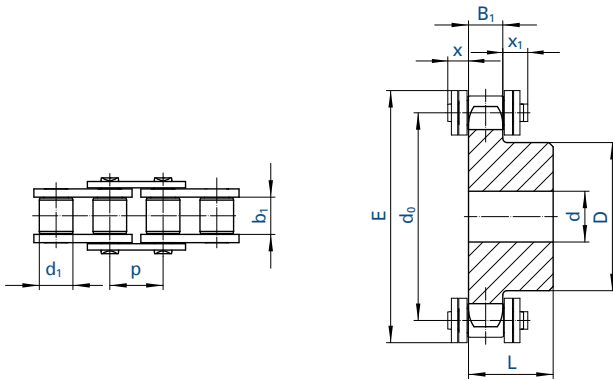


Chain		Pitch	Inner width	Roller Ø	Width over pin	Transverse pitch	Tooth width				Projection		
No.	Ind.	ISO	p	b_1 min.	d_1 max.	l max.	B_1	b	B_2	B_3	x max.	x_1 max.	
		No.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
548		16 B-1	25,4	17,02	15,88	36,1	-	16,2	-	-	-	10,8	16,2
D 548		16 B-2	25,4	17,02	15,88	68,0	31,88	15,8	47,7	-	10,8	16,2	
T 548		16 B-3	25,4	17,02	15,88	99,9	31,88	15,8	-	79,6	10,8	16,2	

Number of teeth	z	Ind.	d_0	E_{max}	548 (16 B-1)			D 548 (16 B-2)			T 548 (16 B-3)		
					d	D	L	d	D	L	d	D	L
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
10			82,2	104	16	55	35	16	56	65	-	-	-
11			90,16	112	16	61	40	20	64	70	25	64	100
12			98,14	120	16	69	40	20	72	70	-	-	-
13			106,14	128	16	78	40	20	80	70	25	80	100
14			114,15	136	16	84	40	20	88	70	-	-	-
15			122,17	144	16	92	40	20	96	70	25	96	100
16			130,2	152	20	100	45	20	104	70	-	-	-
17			138,23	160	20	100	45	20	112	70	30	112	100
18			146,27	168	20	100	45	20	120	70	-	-	-
19			154,32	176	20	100	45	20	128	70	30	128	100
20			162,37	184	20	100	45	20	130	70	-	-	-
21			170,42	192	20	110	50	25	130	70	30	130	100
22			178,48	200	20	110	50	25	130	70	-	-	-
23			186,54	208	20	110	50	25	130	70	30	130	100
24			194,6	216	20	110	50	25	130	70	-	-	-
25			202,66	224	20	110	50	25	130	70	30	130	100
26			210,72	232	20	120	50	25	130	70	-	-	-
27			218,79	240	20	120	50	25	130	70	-	-	-
28			226,86	248	20	120	50	25	130	70	-	-	-
29			234,93	256	20	120	50	25	130	70	-	-	-
30			243	265	20	120	50	25	130	70	30	130	100
32			259,14	281	25	120	50	-	-	-	-	-	-
34			275,29	297	25	120	50	-	-	-	-	-	-
35			283,36	305	25	120	50	-	-	-	-	-	-
36			291,43	313	25	120	50	-	-	-	-	-	-
38			307,58	329	25	120	50	25	140	70	30	140	100
40			323,74	345	25	120	50	25	140	70	-	-	-
45	*		364,12	386	29	125	70	-	-	-	-	-	-
57	*		461,08	483	34	125	70	39	160	90	44	165	100

* Cast iron GG22

Made of steel with a strength of 500 - 600 N/mm². We supply sprockets with custom bore and groove according to specifications. For details on orders and enquiries see page 106. Other sprockets on request.

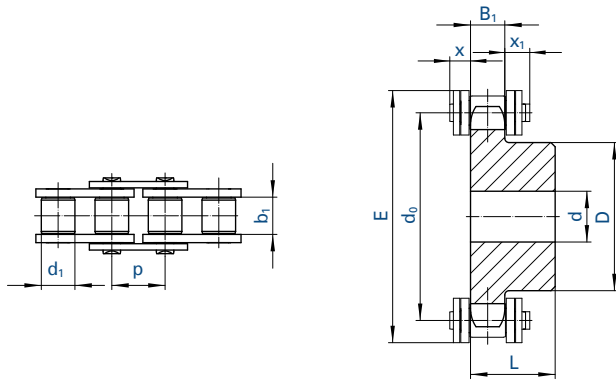


Chain		Pitch	Inner width	Roller Ø	Width over pin	Tooth width	Projection	
ISO		p	b ₁ min.	d ₁ max.	l ₁ max.	B ₁	x max.	x ₁ max.
No.	Ind.	No.	mm	mm	mm	mm	mm	mm
563		20 B-1	31,75	19,56	19,05	43,2	18,5	12,8
596		24 B-1	38,10	25,40	25,40	53,4	24,1	16,0

Number of teeth	563 (20 B-1)						596 (24 B-1)				
	z	d ₀	E _{max}	d	D	L	d ₀	E _{max}	d	D	L
	Ind.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10		102,75	130	20	70	40	123,30	157	20	80	45
11		112,69	139	20	77	45	135,23	169	25	90	50
12		122,67	149	20	88	45	147,21	181	25	102	50
13		132,67	159	20	98	45	159,21	193	25	114	50
14		142,68	169	20	108	45	171,22	205	25	128	50
15		152,71	179	20	118	45	183,25	217	25	140	50
16		162,74	190	25	120	50	195,29	229	25	140	55
17		172,79	200	25	120	50	207,35	241	25	140	55
18		182,84	210	25	120	50	219,41	253	25	140	55
19		192,90	220	25	120	50	231,48	265	25	140	55
20		202,96	230	25	120	50	243,55	277	25	140	55
21		213,03	240	25	140	55	255,63	289	25	150	60
22		223,10	250	25	140	55	267,72	302	25	150	60
23		233,17	260	25	140	55	279,81	314	25	150	60
24		243,25	270	25	140	55	291,90	326	25	150	60
25		253,32	280	25	140	55	303,99	338	25	150	60

* Possibly welded-on hub

Made of steel with a strength of 500 - 600 N/mm². We supply sprockets with custom bore and groove according to specifications. For details on orders and enquiries see page 106. Other sprockets on request.

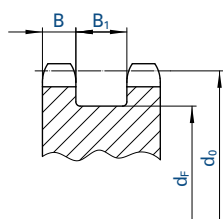


Chain		Pitch	Inner width	Roller Ø	Width over pin	Tooth width	Projection	
⚙		p	b ₁ min.	d ₁ max.	l ₁ max.	B ₁	x max.	x ₁ max.
No.	Ind.	mm	mm	mm	mm	mm	mm	mm
455 RF		9,525	5,72	6,35	13,5	5,3	4,5	7,8
462 RF		12,700	7,75	8,51	17,0	7,2	5,4	9,3
501 RF		15,875	9,65	10,16	19,6	9,1	5,6	9,7
513 RF		19,050	11,68	12,07	22,7	11,1	6,4	11,0
548 RF		25,400	17,02	15,88	36,1	16,2	10,8	16,2

Number of teeth		455 RF					462 RF					501 RF				
		d ₀	E _{max}	d	D	L	d ₀	E _{max}	d	D	L	d ₀	E _{max}	d	D	L
z	Ind.	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
13		39,79	49	10	28	25	53,06	66	10	37	28	66,32	82	12	47	30
15		45,81	55	10	34	25	61,09	74	10	45	28	76,36	92	12	57	30
17		51,83	61	10	40	28	69,11	82	12	52	28	86,39	102	12	60	30
19		57,87	67	10	45	28	77,16	90	12	60	28	96,45	112	14	70	30
21		63,91	73	12	48	28	85,22	98	14	68	28	106,52	122	16	80	30
23		69,65	79	12	52	28	93,27	106	14	70	28	116,58	132	16	80	30
25		76,00	85	12	57	28	101,33	114	14	70	28	126,66	142	16	80	30

Number of teeth		513 RF					548 RF				
		d ₀	E _{max}	d	D	L	d ₀	E _{max}	d	D	L
z	Ind.	mm	mm	mm	mm	mm	mm	mm	mm	mm	
13		79,59	97	16	58	35	106,12	128	16	78	40
15		91,63	109	16	70	35	122,17	144	16	92	40
17		103,67	121	16	80	35	138,22	160	20	100	45
19		115,75	133	16	80	35	154,33	176	20	100	45
21		127,82	145	20	90	40	170,43	192	20	110	50
23		139,90	157	20	90	40	186,54	208	20	110	50
25		152,00	169	20	90	40	202,66	224	20	110	50

Other sprockets made of stainless steel or plastic are available on request.

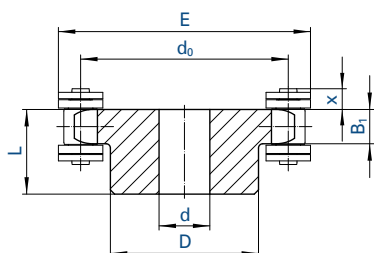


Chain			Pitch	Inner width	Roller Ø
	B ₁	B ₂	p	b ₁ min.	d ₁ max.
No.	mm	mm	mm	mm	mm
513 SF	10,6	20,8	19,05	11,68	12
513 SFK	10,6	20,8	19,05	11,68	12
513 SFV	10,6	20,8	19,05	11,68	12

Number of teeth	PCD	Pilot bore Ø	Hub-Ø between sprockets
z	d ₀		d _F
	mm	mm	mm
15+15	91,62	20	61
17+17	103,67	20	73
19+19	115,73	20	85

Other sprockets made of stainless steel or plastic are available on request.

Sprockets for hollow pin chains 01650

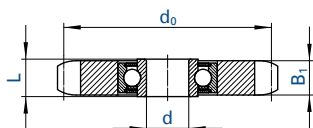


Chain	Pitch	Inner width	Roller Ø	Hollow pin Ø	Width over hollow pin	Plate height	Number of teeth	Sprocket dimensions						
								B ₁	d ₀	d	D	L	E	x
	p	b ₁ min.	d ₁ max.	d ₁ max.	d ₁ max.	g max.	z	mm	mm	mm	mm	mm	mm	mm
No.	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm
01650	50,8	10	30	8,2	27	26	7	9	117,08	20	80	40	148	10
01650	50,8	10	30	8,2	27	26	12	9	196,28	30	110*	50	227	10
01650	50,8	10	30	8,2	27	26	15	9	244,33	30	120*	50	275	10
01650	50,8	10	30	8,2	27	26	18	9	292,55	30	140*	50	323	10

* welded hub

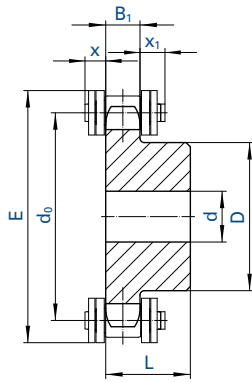
We supply sprockets with custom bore and groove according to specifications.

Sprockets with integrated ball bearing



Chain	Pitch	Inner width	Roller Ø	Width over pin	Jockey sprocket	Number of teeth	d ₀	B ₁	Bearing		Load ratings		
									d + 0,3 + 0,1	L	C dyn.	C ₀ stat.	
	ISO	p	b ₁ min.	d ₁ max.	l ₁ max.	z	mm	mm	mm	mm	kN	kN	
No.	No.	mm	mm	mm	mm		mm	mm	mm	mm	kN	kN	
455	06B-1	9,525	5,72	6,35	13,5	SPR 455	21	63,91	5,3	16	18,3	7,5	4,5
331	081	12,700	3,30	7,75	10,2	SPR 331	18	73,14	3,0	16	18,3	7,5	4,5
332	-	12,700	4,88	7,75	11,2	SPR 332	18	73,14	4,5	16	18,3	7,5	4,5
462	08B-1	12,700	7,75	8,51	17,0	SPR 462	18	73,14	7,2	16	18,3	7,5	4,5
501	10B-1	15,875	9,65	10,16	19,6	SPR 501	17	86,39	9,1	16	18,3	7,5	4,5
513	12B-1	19,050	11,68	12,07	22,7	SPR 513	15	91,62	11,1	16	18,3	7,5	4,5
548	16B-1	25,400	17,02	15,88	36,1	SPR 548	12	98,14	16,2	20	17,7	10,1	6,3
563	20B-1	31,750	19,56	19,05	43,2	SPR 563	13	132,67	18,5	25	21,0	11,0	7,1

Made of steel with a strength of 500 - 600 N/mm².



Formula for calculating the PCD:

$$d_0 = \frac{p}{\sin(180^\circ/z)}$$

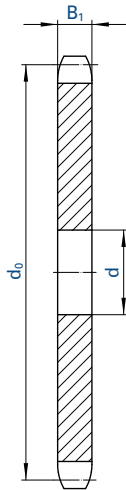
Formula for calculating the permissible torque:

$$M_{zul.} = \frac{F_B [N] \cdot \frac{d_0 [mm]}{2}}{10 \cdot 1000} [Nm]$$

In all cases where the chain does not wrap around the sprocket, but only contacts it tangentially, the sprocket must be a lantern gear version, because only one tooth at a time meshes with the chain. Therefore the teeth of the sprocket are tempered to reduce wear. Thus roller chains are frequently used as a rack and pinion arrangement.

Rack and pinion arrangements with chains are inexpensive and easy to assemble. A spring clip connecting link or a connecting link with cottered pin is attached to both ends of a pre-stretched chain with an uneven number of links. By means of the connecting links the chain is then mounted to a clamping device. The chain must be supported over the whole length.

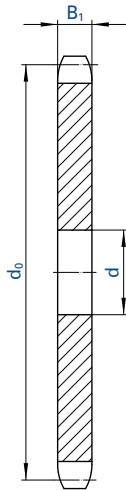
Lantern gear	Number of teeth	PCD	Tip circle Ø	Tooth width	Pre-drilled bore	Hub		Roller chain	Pitch	Inner width	Roller Ø
						Ø	length				
	z	d ₀	d _k max.	B ₁	d	D	L		p	b ₁ min.	d ₁ max.
No.		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
TRB 15462	15	61,08	69,1	6,3	10	30,5	25	462	12,700	7,75	8,51
TRB 17462	17	69,12	77,2	6,3	12	38,5	25	462	12,700	7,75	8,51
TRB 19462	19	77,16	85,3	6,3	12	46,5	25	462	12,700	7,75	8,51
TRB 21462	21	85,21	93,4	6,3	16	54,5	25	462	12,700	7,75	8,51
TRB 23462	23	93,27	101,4	6,3	16	63,0	25	462	12,700	7,75	8,51
TRB 15501	15	76,35	85,9	8,0	12	45,5	25	501	15,875	9,65	10,16
TRB 17501	17	86,39	96,0	8,0	16	55,5	25	501	15,875	9,65	10,16
TRB 19501	19	96,45	106,1	8,0	16	66,0	25	501	15,875	9,65	10,16
TRB 21501	21	106,51	116,2	8,0	16	76,0	25	501	15,875	9,65	10,16
TRB 23501	23	116,59	126,3	8,0	16	86,0	25	501	15,875	9,65	10,16
TRB 15513	15	91,63	103,0	9,5	16	45,0	35	513	19,050	11,68	12,07
TRB 17513	17	103,67	115,1	9,5	20	57,0	35	513	19,050	11,68	12,07
TRB 19513	19	115,74	127,3	9,5	20	69,0	35	513	19,050	11,68	12,07
TRB 21513	21	127,82	139,4	9,5	20	81,0	35	513	19,050	11,68	12,07
TRB 23513	23	139,90	151,5	9,5	20	93,0	35	513	19,050	11,68	12,07
TRB 15548	15	122,17	137,1	14,0	20	75,0	40	548	25,400	17,02	15,88
TRB 17548	17	138,23	153,3	14,0	20	91,0	40	548	25,400	17,02	15,88
TRB 19548	19	154,32	169,5	14,0	20	107,0	40	548	25,400	17,02	15,88
TRB 21548	21	170,42	185,6	14,0	25	123,0	40	548	25,400	17,02	15,88
TRB 23548	23	186,54	201,8	14,0	25	140,0	40	548	25,400	17,02	15,88



made of steel

Plate thickness = 4 mm
445 (04) as of z = 51
450 (05 B-1) as of z = 46

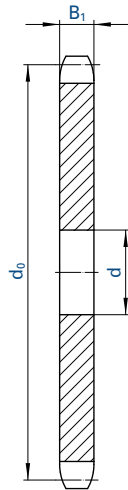
Number of teeth	445 (04)		450 (05 B-1)		455 (06 B-1)		
	$p = 6,0$ mm	$b_1 = 2,7$ mm	$p = 8,0$ mm	$b_1 = 3,0$ mm	$p = 9,525$ mm	$b_1 = 5,720$ mm	
	$d_1 = 4,0$ mm	$B_1 = 2,6$ mm	$d_1 = 5,0$ mm	$B_1 = 2,8$ mm	$d_1 = 6,350$ mm	$B_1 = 5,300$ mm	
z	d_0	d	d_0	d	d_0	d	
	Ind.	mm	mm	mm	mm	mm	
11		21,30	6	28,40	8	33,81	8
12		23,18	6	30,91	8	36,80	8
13		25,07	8	33,43	8	39,80	8
14		26,96	8	35,95	8	42,81	8
15		28,86	8	38,48	8	45,81	8
16		30,75	8	41,01	8	48,82	10
17		32,65	8	43,54	8	51,84	10
18		34,55	8	46,07	8	54,85	10
19		36,45	8	48,60	8	57,87	10
20		38,36	8	51,14	8	60,89	10
21		40,26	8	53,68	8	63,91	10
22		42,16	8	56,21	8	66,93	10
23		44,06	8	58,75	8	69,95	10
24		45,97	8	61,29	8	72,97	10
25		47,87	8	63,83	8	76,00	10
26		49,78	8	66,37	10	79,02	10
27		51,68	8	68,91	10	82,05	10
28		53,59	8	71,45	10	85,07	10
29		-	-	73,99	10	88,10	10
30		57,40	8	76,53	10	91,12	10
31		-	-	79,08	10	94,15	12
32		61,21	8	81,62	10	97,18	12
33		63,12	8	84,16	10	100,20	12
34		65,03	8	86,70	10	103,23	12
35		66,93	8	89,25	10	106,26	12
36		68,84	8	91,79	10	109,29	12
37		70,75	8	94,33	10	112,31	12
38		72,65	8	96,88	10	115,34	12
39		-	-	99,42	10	118,37	12
40		76,47	8	101,96	10	121,40	12
45		86,01	10	114,68	12	136,55	16
57		108,92	12	145,22	14	172,91	16
65		124,19	14	165,59	16	197,15	20



made of steel

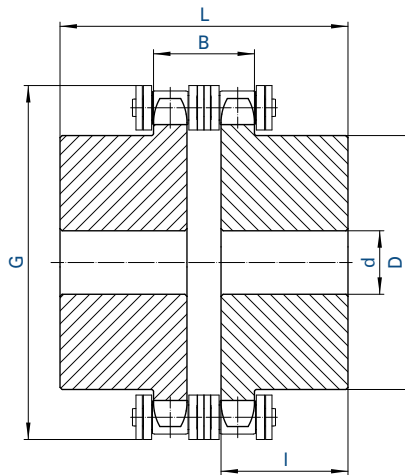
Plate thickness = 4 mm
331 (081) as of z = 41

Number of teeth	331 (081)		332		462 (08 B-1)		501 (10 B-1)		
	$p = 12,70$ mm	$b_1 = 3,30$ mm	$p = 12,70$ mm	$b_1 = 4,88$ mm	$p = 12,70$ mm	$b_1 = 7,75$ mm	$p = 15,875$ mm	$b_1 = 9,650$ mm	
	$d_1 = 7,75$ mm	$B_1 = 3,00$ mm	$d_1 = 7,75$ mm	$B_1 = 4,50$ mm	$d_1 = 8,51$ mm	$B_1 = 7,20$ mm	$d_1 = 10,160$ mm	$B_1 = 9,100$ mm	
z	d_0	d	d_0	d	d_0	d	d_0	d	
	Ind.	mm	mm	mm	mm	mm	mm	mm	
11		45,08	8	45,08	8	45,08	10	56,35	10
12		49,07	8	49,07	8	49,07	10	61,34	10
13		53,07	8	53,07	8	53,07	10	66,34	10
14		57,07	8	57,07	8	57,07	10	71,34	10
15		61,08	8	61,08	8	61,08	10	76,35	10
16		65,10	10	65,10	10	65,10	10	81,37	12
17		69,12	10	69,12	10	69,12	10	86,39	12
18		73,14	10	73,14	10	73,14	10	91,42	12
19		77,16	10	77,16	10	77,16	10	96,45	12
20		81,18	10	81,18	10	81,18	10	101,48	12
21		85,21	10	85,21	10	85,21	12	106,51	12
22		89,24	10	89,24	10	89,24	12	111,55	12
23		93,27	10	93,27	10	93,27	12	116,59	12
24		97,30	10	97,30	10	97,30	12	121,62	12
25		101,33	10	101,33	10	101,33	12	126,66	12
26		105,36	12	105,36	12	105,36	16	131,70	16
27		109,40	12	109,40	12	109,40	16	136,74	16
28		113,43	12	113,43	12	113,43	16	141,79	16
29		-	-	117,46	12	117,46	16	146,83	16
30		121,50	12	121,50	12	121,50	16	151,87	16
31		-	-	125,53	12	125,53	16	156,92	16
32		129,57	12	129,57	12	129,57	16	161,96	16
33		133,61	12	133,61	12	133,61	16	167,01	16
34		137,64	12	137,64	12	137,64	16	172,05	16
35		141,68	12	141,68	12	141,68	16	177,10	16
36		145,72	16	145,72	16	145,72	16	182,14	20
37		149,75	16	149,75	16	149,75	16	187,19	20
38		153,79	16	153,79	16	153,79	16	192,24	20
39		157,83	16	157,83	16	157,83	16	197,29	20
40		161,87	16	161,87	16	161,87	16	202,35	20
45		182,06	16	182,06	16	182,06	20	227,58	20
57		230,54	20	230,54	20	-	-	288,18	25
65		-	-	262,87	20	262,87	25	328,58	25



made of steel

Number of teeth <i>z</i>	513 (12 B-1)		548 (16 B-1)		563 (20 B-1)		596 (24 B-1)	
	<i>p</i> = 19,05 mm <i>b</i> ₁ = 11,68 mm <i>d</i> ₁ = 12,07 mm <i>B</i> ₁ = 11,10 mm		<i>p</i> = 25,40 mm <i>b</i> ₁ = 17,02 mm <i>d</i> ₁ = 15,88 mm <i>B</i> ₁ = 16,20 mm		<i>p</i> = 31,75 mm <i>b</i> ₁ = 19,56 mm <i>d</i> ₁ = 19,05 mm <i>B</i> ₁ = 18,50 mm		<i>p</i> = 38,10 mm <i>b</i> ₁ = 25,40 mm <i>d</i> ₁ = 25,40 mm <i>B</i> ₁ = 24,10 mm	
<i>z</i>	<i>d</i> ₀	<i>d</i>	<i>d</i> ₀	<i>d</i>	<i>d</i> ₀	<i>d</i>	<i>d</i> ₀	<i>d</i>
Ind.	mm	mm	mm	mm	mm	mm	mm	mm
11	67,62	14	90,16	15	112,69	16	135,23	20
12	73,60	14	98,14	15	122,67	20	147,21	20
13	79,60	14	106,14	15	132,67	20	159,21	20
14	85,61	14	114,15	15	142,68	20	171,22	20
15	91,62	14	122,17	15	152,71	20	183,25	20
16	97,65	14	130,20	19	162,74	25	195,29	25
17	103,67	14	138,23	19	172,79	25	207,35	25
18	109,71	14	146,27	19	182,84	25	219,41	25
19	115,74	14	154,32	19	192,90	25	231,48	25
20	121,78	14	162,37	19	202,96	25	243,55	25
21	127,82	16	170,42	20	213,03	25	255,63	25
22	133,86	16	178,48	20	223,10	25	267,72	25
23	139,90	16	186,54	20	233,17	25	279,81	25
24	145,95	16	194,60	20	243,25	25	291,90	25
25	151,99	16	202,66	20	253,32	25	303,99	25
26	158,04	16	210,72	20	263,40	25	-	-
27	164,09	16	218,79	20	273,49	25	328,19	30
28	170,14	16	226,86	20	283,57	25	-	-
29	176,20	16	234,93	20	293,66	25	352,39	30
30	182,25	16	243,00	20	303,75	25	364,50	30
31	188,30	20	251,07	25	313,83	25	-	-
32	194,35	20	259,14	25	323,92	25	388,71	30
33	200,41	20	267,21	25	334,01	25	-	-
34	206,46	20	275,29	25	344,11	25	-	-
35	212,52	20	283,36	25	354,20	25	425,04	30
36	218,57	20	291,43	25	364,29	25	-	-
37	224,63	20	299,51	25	374,38	25	-	-
38	230,69	20	307,58	25	384,48	25	461,38	30
39	236,74	20	315,66	25	394,57	25	-	-
40	242,80	20	323,74	25	404,67	25	485,60	30
45	273,09	25	364,12	25	455,16	30	546,19	30
57	345,81	25	461,08	30	576,35	30	691,63	30
65	394,30	25	525,73	30	657,17	30	788,60	40



Advantages:

- Elastic torque transmission
- Fast decoupling by simply slackening the chain
- Especially inexpensive

Example:

A 4-cylinder diesel engine with $P = 110 \text{ kW}$ and $n = 1400 \text{ rpm}$ is to be coupled to a three-phase alternator – dynamic load factor 1,5.

The calculation is as follows:

$$1,5 \frac{P}{n} = 1,5 \frac{110}{1400} = 0,1178$$

Select the coupling according to $\frac{P}{n}$ column (see below):

The coupling next in size is No. 548 18.

Dynamic load factors

Load type of driven machines	Drive machines		
	Electric motors	Internal combustion engines	
		4 cylinders and more	less than 4 cylinders
impact-free	1,0	1,5	2,0
low impact	1,5	2,0	2,5
high impact	2,0	2,5	3,0

Coupling		Torque	Flywheel effect	$\frac{P}{n}$	n max.	d min.	D	l	B	Required space		Weight
No.	Ind.	M_d Nm	mD^2 kgm ²							G	L	q max. kg/piece
450 18		38	0,000 405	0,0039	8 000	10	38	20	8,2	53,5	43,0	0,41
455 14	*	60	0,000 410	0,0062	6 000	12	33	22	15,2	51,8	49,0	0,41
455 18	*	95	0,001 170	0,0097	6 000	12	45	25	15,2	63,9	55,0	0,78
462 14	*	150	0,001 650	0,0154	5 500	15	44	28	20,7	70,0	63,0	0,93
462 18	*	240	0,004 740	0,0246	5 500	15	60	32	20,7	86,0	71,0	1,83
501 18	*	380	0,013	0,0390	4 500	15	75	35	25,0	107,0	78,0	3,21
513 18	*	600	0,030 100	0,0616	3 000	25	90	40	29,5	126,5	89,5	4,97
513 24	*	940	0,107	0,0965	2 500	25	125	50	29,5	162,5	109,5	10,90
548 18	*	1 480	0,158	0,1519	2 500	30	120	60	46,7	170,0	137,0	12,30
548 24	*	2 350	0,517	0,2413	2 000	30	165	70	46,7	219,0	157,0	27,65
563 22	*	3 700	0,882	0,3798	1 800	40	180	75	53,5	250,0	169,5	37,50
596 18	*	5 800	1,160	0,5954	1 200	50	180	80	70,4	256,0	186,5	43,50
596 24	*	9 200	3,250	0,9445	1 200	50	220	100	70,4	328,0	226,5	78,50
652 22		14 500	7,940	1,4887	1 000	60	260	120	85,6	401,0	272,0	138,00
671 20		23 000	18,710	2,3613	800	75	300	150	105,3	466,0	340,0	231,00

* can also be supplied in maintenance-free MARATHON design. In this case please put MA after the number for the coupling, e.g. 462 14 MA

Couplings are supplied unassembled and the loose chain is enclosed.
Other sprockets, number of teeth, chain types and dimensions on request.

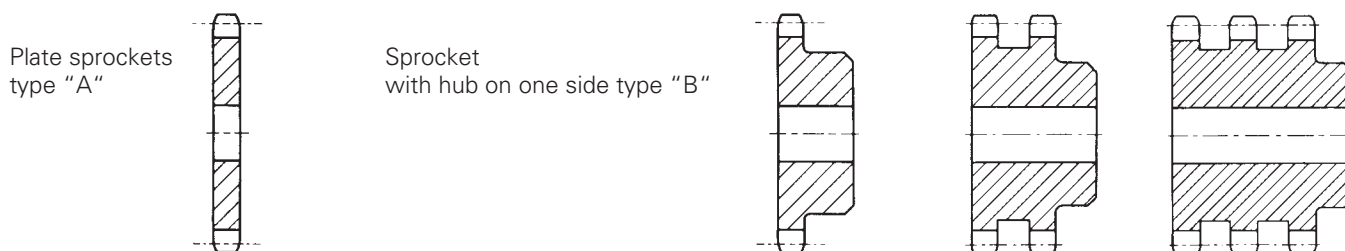
For enquiries and orders please supply the following details:

1. Number of couplings
2. Chain pitch
3. Number of teeth
4. Coupling No. or alternatively torque to be transmitted
5. Bores of coupling halves
6. Groove sizes (for keyways also tightening direction); without additional specifications we will supply sprockets on the basis of DIN 6885 sheet 1



Standard sprockets

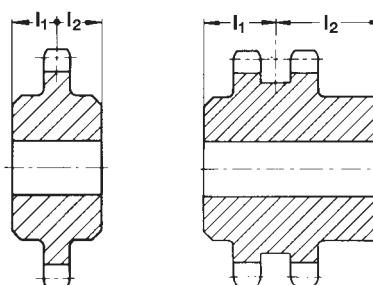
Standard sprockets can be supplied ex stock with custom bore or bored and grooved "ready-to-install" at extra cost.



Sprockets made to specifications

Sprockets can be manufactured to your specifications and drawings.

Sprockets with hub on both sides (type "C") can be symmetrical or asymmetrical. For asymmetrical hub lengths the two hub sections l_1 and l_2 up to the centre of the sprocket must be stated in your order.

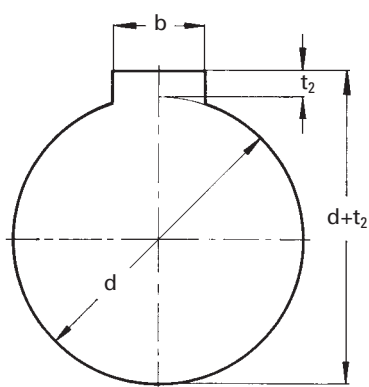


Material grades

For sprockets with a diameter of up to approx. 300 mm unalloyed steel with a steel strength of 500 - 600 N/mm² (S355JOC, C45 and the like) are usually sufficient. For larger sprockets cast iron suffices in case of normal loads.

For drive pinions subjected to high loads with speeds of more than 500 rpm or with chain speeds of more than 1m/s it is recommended to harden or to harden and temper the teeth to 50 ± 2 HRC.

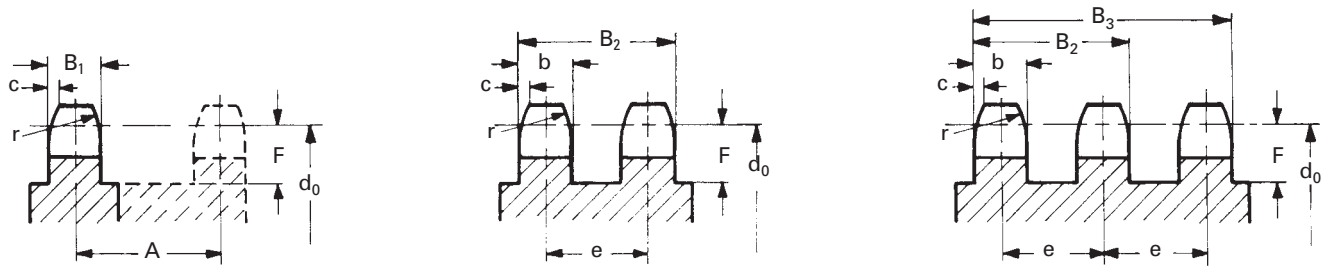
Groove sizes



Groove sizes for woodruff keys DIN 6888 are in accordance with: DIN 6885 sheet 1 (with clearance) design A, DIN 6885 sheet 2 design B

We manufacture hub grooves only when specifically ordered by our customers. If no further specifications are given, we will work according to DIN 6885 sheet 1.

DIN	for shaft diameter	Groove width b	Feather keys				Keyways		Hollow keys	Flat keys	
			6885		6885		6886	6887	6881/6889	6883/6884	
			Sheet 1	Sheet 2	Sheet 3						
	d		Groove depth t_2								
			with clearance	with over-size		with clearance	with over-size				
more than	6 to 8	2,0	1,0	0,5	-	-	-	0,5	-	-	-
"	8 " 10	3,0	1,4	0,9	-	-	-	0,9	-	-	-
"	10 " 12	4,0	1,8	1,2	1,1	-	-	1,2	1,2	-	-
"	12 " 17	5,0	2,3	1,7	1,3	1,2	0,8	1,7	1,7	-	-
"	17 " 22	6,0	2,8	2,2	1,7	1,6	1,1	2,2	2,2	-	-
"	22 " 30	8,0	3,3	2,4	1,7	2,0	1,4	2,4	2,4	3,2	3,2
"	30 " 38	10,0	3,3	2,4	2,1	2,4	1,8	2,4	2,4	3,7	3,7
"	38 " 44	12,0	3,3	2,4	2,1	2,2	1,6	2,4	2,4	3,7	3,7
"	44 " 50	14,0	3,8	2,9	2,6	2,1	1,4	2,9	2,9	4,0	4,0
"	50 " 58	16,0	4,3	3,4	2,6	2,4	1,7	3,4	3,4	4,5	4,5
"	58 " 65	18,0	4,4	3,4	3,1	2,3	1,6	3,4	3,4	4,5	4,5
"	65 " 75	20,0	4,9	3,9	4,1	2,7	2,0	3,9	3,9	5,5	5,5
"	75 " 85	22,0	5,4	4,4	4,1	3,1	2,4	4,4	4,4	6,5	6,5
"	85 " 95	25,0	5,4	4,4	4,1	2,9	2,2	4,4	4,4	6,4	6,4
"	95 " 110	28,0	6,4	5,4	5,1	3,2	2,4	5,4	5,4	6,9	6,9
"	110 " 130	32,0	7,4	6,4	5,2	3,5	2,7	6,4	6,4	7,9	7,9
"	130 " 150	36,0	8,4	7,1	6,5	3,8	3,0	7,1	7,1	8,4	8,4
"	150 " 170	40,0	9,4	8,1	8,2	-	-	8,1	8,1	-	9,1
"	170 " 200	45,0	10,4	9,1	-	-	-	9,1	9,1	-	10,4
"	200 " 230	50,0	11,4	10,1	-	-	-	10,1	10,1	-	11,7
"	230 " 260	56,0	12,4	11,1	-	-	-	11,1	11,1	-	-



Simplex or 2 x simplex

Duplex

Triplex

- B_1 : Tooth width for simplex sprocket
- b : Tooth width for multiplex sprocket
- B_2 : Tooth width over duplex sprocket
- B_3 : Tooth width over triplex sprocket
- c : Chamfer of tooth width 0,1 to 0,15 p
- r : Tooth chamfer radius $\geq p$
- e : Transverse pitch
- F : Undercut
- A : Centre to centre distance for separated chain strands
(only for 2 x simplex roller chain, each with outer connecting side)

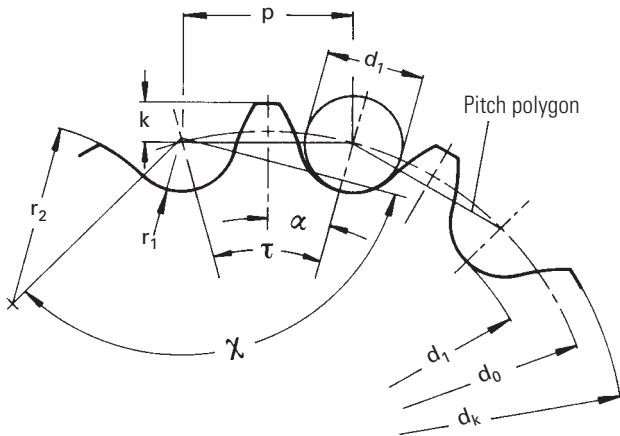
Roller chains according to ISO 606 (European type)

Chain 	Chain dimensions			Profile dimensions							
	Pitch		Inner width	Roller \varnothing	e	B_1	b	B_2^*	B_3^*	F	A
No.	mm	inch	b_1 min.	d_1 h9	mm	h14	h14	mm	mm	mm	mm
440	5,000	-	2,50	3,20	-	2,3	-	-	-	3,0	9
445, D 445	6,000	-	2,80	4,00	5,50	2,6	2,5	8,0	-	3,5	9
450, D 450, T 450	8,000	-	3,00	5,00	5,64	2,8	2,7	8,3	14,0	5,0	10
453	9,525	$\frac{3}{8}$	3,30	6,00	-	3,0	-	-	-	6,0	11
454	9,525	$\frac{3}{8}$	3,94	6,35	-	3,6	-	-	-	6,0	13
455, D 455, T 455	9,525	$\frac{3}{8}$	5,72	6,35	10,24	5,3	5,2	15,4	25,7	6,0	15
331	12,700	$\frac{1}{2}$	3,30	7,75	-	3,0	-	-	-	7,0	12
332, 17	12,700	$\frac{1}{2}$	4,88	7,75	-	4,5	-	-	-	7,0	15
110	12,700	$\frac{1}{2}$	2,38	7,75	-	2,2	-	-	-	7,0	9
41	12,700	$\frac{1}{2}$	6,38	7,75	-	5,9	-	-	-	7,0	16
385	12,700	$\frac{1}{2}$	6,40	7,75	-	5,9	-	-	-	8,0	18
461	12,700	$\frac{1}{2}$	6,40	8,51	-	5,9	-	-	-	8,0	18
462, D 462, T 462	12,700	$\frac{1}{2}$	7,75	8,51	13,92	7,2	7,0	21,0	34,8	8,0	20
500	15,875	$\frac{5}{8}$	6,48	10,16	-	6,1	-	-	-	10,0	19
501, D 501, T 501	15,875	$\frac{5}{8}$	9,65	10,16	16,59	9,1	9,0	25,6	42,2	10,0	23
513, D 513, T 513	19,050	$\frac{3}{4}$	11,68	12,07	19,46	11,1	10,8	30,3	49,7	11,0	27
548, D 548, T 548	25,400	1	17,02	15,88	31,88	16,2	15,8	47,7	79,6	15,0	42
552	30,000	-	17,02	15,88	-	16,2	-	-	-	15,0	42
563, D 563, T 563	31,750	1 $\frac{1}{4}$	19,56	19,05	36,45	18,5	18,2	54,6	91,1	18,0	50
596, D 596, T 596	38,100	1 $\frac{1}{2}$	25,40	25,40	48,36	24,1	23,6	72,0	120,3	23,0	63
613, D 613, T 613	44,450	1 $\frac{3}{4}$	30,99	27,94	59,56	29,4	28,8	88,4	147,9	25,0	76
652, D 652, T 652	50,800	2	30,99	29,21	58,55	29,4	28,8	87,4	145,9	29,0	79
671, D 671, T 671	63,500	2 $\frac{1}{2}$	38,10	39,37	72,29	36,2	35,4	107,7	180,0	36,0	97
679, D 679, T 679	76,200	3	45,72	48,26	91,21	43,4	42,5	133,7	224,9	43,0	116

Roller chains according to ISO 606 (American type)

35, 35-2, 35-3	9,525	$\frac{3}{8}$	4,77	5,08	10,13	4,4	4,3	14,4	24,5	6,0	15
40, 40-2, 40-3	12,700	$\frac{1}{2}$	7,85	7,95	14,38	7,4	7,2	21,6	36,0	8,0	20
50, 50-2, 50-3	15,875	$\frac{5}{8}$	9,40	10,16	18,11	9,0	8,8	26,9	45,0	10,0	25
60, 60 H, 60-2, 60-3	19,050	$\frac{3}{4}$	12,57	11,91	22,78	12,0	11,8	34,6	57,3	12,0	31/33**
80, 80 H, 80-2, 80-3	25,400	1	15,75	15,88	29,29	15,1	14,8	44,1	73,4	16,0	39/42**
100, 100 H, 100-2, 100-3	31,750	1 $\frac{1}{4}$	18,90	19,05	35,76	18,1	17,7	53,4	89,2	20,0	48/51**
120, 120-2, 120-3	38,100	1 $\frac{1}{2}$	25,22	22,23	45,44	24,1	23,6	69,0	114,5	24,0	60
140, 140-2, 140-3	44,450	1 $\frac{3}{4}$	25,22	25,40	48,87	24,1	23,6	72,5	121,3	28,0	64
160, 160-2, 160-3	50,800	2	31,55	28,58	58,55	30,1	29,5	88,0	146,6	32,0	77
200, 200-2, 200-3	63,500	2 $\frac{1}{2}$	37,85	39,68	71,55	36,2	35,4	106,9	178,5	40,0	94

* rounded off values ** the second value only applies to chains of type series "H"



- p : Pitch
- z : Number of teeth
- d₁ : Roller diameter, bushing diameter or pin diameter
- d₀ : PCD
- d_k : Tip circle diameter
- d_f : Root circle diameter
- t : Pitch angle = $\frac{360^\circ}{z}$ $\alpha = \frac{180^\circ}{z}$
- x : Roller contact angle
- k : Tooth height above pitch polygon
(Diameter of pitch polygon = p cot α)
- r₁ : Tooth root radius
- r₂ : Tooth profile radius
- n : Factor for the number of teeth = $\frac{1}{\sin \alpha} = \frac{1}{\sin (180^\circ/z)}$

PCD

$$d_0 = \frac{p}{\sin \alpha} = \frac{p}{\sin (180^\circ/z)} = pn$$

Tip circle diameter d_k

a) Roller chain sprockets

$$d_k = p \cot \alpha + 0,8 d_1 = d_0 \cos \alpha + 0,8 d_1$$

the following applies with sufficient accuracy:

$$\begin{aligned} d_k &= d_0 + 0,5 \dots 0,6 d_1 & z &= 6 \dots 12 \text{ teeth} \\ d_k &= d_0 + 0,6 \dots 0,7 d_1 & z &= 13 \dots 25 \text{ teeth} \\ d_k &= d_0 + 0,7 \dots 0,8 d_1 & z &= \text{more than 25 teeth} \end{aligned}$$

b) Bush chain sprockets

$$d_k = d_0 + 0,8 \dots 1,0 d_1$$

c) Galle chain sprockets

$$d_k = d_0 + d_1$$

Root circle diameter

$$d_f = d_0 - d_1$$

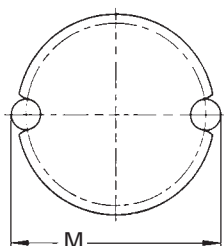
Toothing check

a) by measuring

In order to check the sprocket toothing the root circle diameter must be determined by means of measuring pins with the same diameters as the chain rollers,

but with the tolerance $\begin{matrix} + 0,01 \\ 0,00 \end{matrix}$

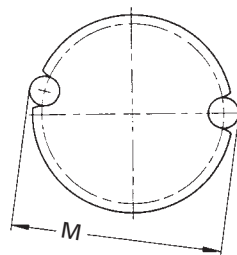
For an even number of teeth the measure M is:



$$M = d_0 + d_1$$

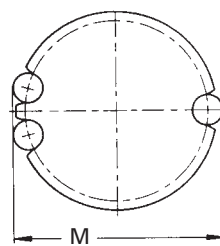
$$M = pn + d_1$$

For an uneven number of teeth the measure M is: over 2 measuring pins over 3 measuring pins



$$M = d_0 \cos \frac{\alpha}{2} + d_1$$

$$M = pn \cos \frac{\alpha}{2} + d_1$$



$$M = \frac{p}{2} \left(\frac{1}{\sin \alpha} + \cot \alpha \right) + d_1$$

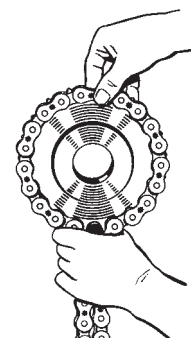
$$M = \frac{p}{2} (n + \cot \alpha) + d_1$$

For permissible deviations of the measure M the tolerances of the root circle diameter (h₁₁) apply.

b) by means of a chain looped around the sprocket

It must be possible to fully loop the chain around the sprocket quite easily. If the toothing was milled too deeply, the sprocket is defective and must be scrapped! In case of the root circle diameter being too long (i.e. the chain cannot be looped around the sprocket and moves upwards on the tooth flanks after a few links), the sprocket can be milled again.

Toothing check by means of a chain looped around the sprocket






z	n	cot α
6	2,0000	1,7321
7	2,3048	2,0765
8	2,6131	2,4142
9	2,9238	2,7475
10	3,2361	3,0777
11	3,5495	3,4057
12	3,8637	3,7321
13	4,1786	4,0572
14	4,4940	4,3813
15	4,8097	4,7046
16	5,1258	5,0273
17	5,4422	5,3495
18	5,7588	5,6713
19	6,0755	5,9927
20	6,3925	6,3138
21	6,7095	6,6346
22	7,0267	6,9552
23	7,3439	7,2755
24	7,6613	7,5958
25	7,9787	7,9158
26	8,2962	8,2357
27	8,6138	8,5555
28	8,9314	8,8752
29	9,2491	9,1948
30	9,5668	9,5144
31	9,8845	9,8338
32	10,2023	10,1532
33	10,5201	10,4725
34	10,8380	10,7917
35	11,1558	11,1109
36	11,4737	11,4300
37	11,7916	11,7492
38	12,1096	12,0682
39	12,4275	12,3872
40	12,7455	12,7062
41	13,0635	13,0251
42	13,3815	13,3441
43	13,6995	13,6630
44	14,0176	13,9818
45	14,3356	14,3007
46	14,6537	14,6195
47	14,9717	14,9383
48	15,2898	15,2571
49	15,6079	15,5758
50	15,9260	15,8945
51	16,2441	16,2133
52	16,5622	16,5320
53	16,8803	16,8507
54	17,1984	17,1693
55	17,5166	17,4880
56	17,8347	17,8066
57	18,1529	18,1253
58	18,4710	18,4439
59	18,7892	18,7625
60	19,1073	19,0811

z	n	cot α
61	19,4255	19,3997
62	19,7437	19,7183
63	20,0619	20,0369
64	20,3800	20,3555
65	20,6982	20,6740
66	21,0164	20,9926
67	21,3346	21,3111
68	21,6528	21,6297
69	21,9710	21,9482
70	22,2892	22,2667
71	22,6074	22,5853
72	22,9256	22,9038
73	23,2438	23,2223
74	23,5620	23,5408
75	23,8802	23,8593
76	24,1984	24,1778
77	24,5167	24,4963
78	24,8349	24,8147
79	25,1531	25,1332
80	25,4713	25,4517
81	25,7896	25,7702
82	26,1078	26,0886
83	26,4260	26,4071
84	26,7443	26,7256
85	27,0625	27,0440
86	27,3808	27,3625
87	27,6990	27,6809
88	28,0172	27,9994
89	28,3355	28,3178
90	28,6537	28,6363
91	28,9720	28,9547
92	29,2902	29,2731
93	29,6084	29,5916
94	29,9267	29,9100
95	30,2449	30,2284
96	30,5632	30,5468
97	30,8815	30,8653
98	31,1997	31,1837
99	31,5180	31,5021
100	31,8362	31,8205
101	32,1545	32,1389
102	32,4727	32,4573
103	32,7910	32,7758
104	33,1093	33,0942
105	33,4275	33,4126
106	33,7458	33,7310
107	34,0641	34,0494
108	34,3823	34,3678
109	34,7006	34,6862
110	35,0188	35,0046
111	35,3371	35,3229
112	35,6554	35,6414
113	35,9737	35,9598
114	36,2919	36,2781
115	36,6102	36,5965
116	36,9285	36,9150
117	37,2467	37,2333
118	37,5650	37,5517
119	37,8833	37,8701
120	38,2015	38,1884

z	n	cot α
121	38,5198	38,5068
122	38,8381	38,8252
123	39,1564	39,1436
124	39,4746	39,4620
125	39,7929	39,7804
126	40,1112	40,0987
127	40,4295	40,4171
128	40,7478	40,7355
129	41,0660	41,0538
130	41,3843	41,3722
131	41,7026	41,6906
132	42,0209	42,0090
133	42,3392	42,3273
134	42,6574	42,6457
135	42,9757	42,9641
136	43,2940	43,2825
137	43,6123	43,6008
138	43,9306	43,9192
139	44,2488	44,2375
140	44,5671	44,5559
141	44,8854	44,8743
142	45,2037	45,1926
143	45,5220	45,5110
144	45,8402	45,8293
145	46,1585	46,1477
146	46,4768	46,4661
147	46,7951	46,7844
148	47,1134	47,1028
149	47,4317	47,4212
150	47,7500	47,7395
151	48,0683	48,0579
152	48,3865	48,3762
153	48,7048	48,6946
154	49,0231	49,0129
155	49,3414	49,3313
156	49,6597	49,6496
157	49,9780	49,9680
158	50,2963	50,2863
159	50,6146	50,6047
160	50,9329	50,9230
161	51,2511	51,2414
162	51,5694	51,5597
163	51,8877	51,8781
164	52,2060	52,1964
165	52,5243	52,5148
166	52,8426	52,8332
167	53,1609	53,1515
168	53,4792	53,4699
169	53,7975	53,7883
170	54,1158	54,1066
171	54,4341	54,4249
172	54,7524	54,7433
173	55,0707	55,0617
174	55,3889	55,3799
175	55,7072	55,6982
176	56,0255	56,0166
177	56,3438	56,3349
178	56,6621	56,6533
179	56,9804	56,9716
180	57,2987	57,2900

z	n	cot α
181	57,6170	57,6083
182	57,9353	57,9266
183	58,2536	58,2451
184	58,5719	58,5633
185	58,8902	58,8817
186	59,2085	59,2001
187	59,5267	59,5184
188	59,8450	59,8367
189	60,1634	60,1551
190	60,4817	60,4735
191	60,7999	60,7917
192	61,1182	61,1100
193	61,4366	61,4285
194	61,7549	61,7468
195	62,0732	62,0652
196	62,3915	62,3835
197	62,7097	62,7019
198	63,0279	63,0201
199	63,3464	63,3385
200	63,6646	63,6567
201	63,9829	63,9750
202	64,3012	64,2935
203	64,6195	64,6118
204	64,9378	64,9301
205	65,2562	65,2484
206	65,5744	65,5668
207	65,8927	65,8852
208	66,2110	66,2034
209	66,5294	66,5217
210	66,8477	66,8403
211	67,1659	67,1584
212	67,4842	67,4768
213	67,8025	67,7952
214	68,1208	68,1134
215	68,4391	68,4318
216	68,7574	68,7501
217	69,0757	69,0684
218	69,3940	69,3868
219	69,7123	69,7051
220	70,0306	70,0234
221	70,3489	70,3418
222	70,6671	70,6605
223	70,9855	70,9784
224	71,3038	71,2968
225	71,6221	71,6151
226	71,9405	71,9336
227	72,2587	72,2518
228	72,5770	72,5701
229	72,8953	72,8884
230	73,2136	73,2067
231	73,5319	73,5251
232	73,8502	73,8434
233	74,1685	74,1617
234	74,4868	74,4801
235	74,8051	74,7984
236	75,1234	75,1167
237	75,4417	75,4351
238	75,7599	75,7534
239	76,0783	76,0717
240	76,3966	76,3900



Chain No. 	440		445 D 450		450 D 450 T 450		35 35-2 35-3		453, 454 455 D 455 T 455		17, 18, 41 110, 331 40 40-2 40-3	
Pitch p	5,0		6,0		8,0		9,525		9,525		12,7	
Roller $\varnothing d_1$	3,2		4,0		5,0		5,08		6,0 - 6,35		7,75 - 7,95	
Number of teeth z	PCD d_0	Tip circle \varnothing d_k	PCD d_0	Tip circle \varnothing d_k	PCD d_0	Tip circle \varnothing d_k	PCD d_0	Tip circle \varnothing d_k	PCD d_0	Tip circle \varnothing d_k	PCD d_0	Tip circle \varnothing d_k
11	17,75	19,6	21,30	23,6	28,40	31,2	33,81	36,5	33,81	37,5	45,08	49,6
12	19,32	21,2	23,18	25,6	30,91	33,8	36,80	39,6	36,80	40,6	49,07	53,8
13	20,89	22,8	25,07	27,5	33,43	36,4	39,80	42,7	39,80	43,7	53,07	57,9
14	22,47	24,5	26,96	29,5	35,95	39,0	42,81	45,8	42,81	46,8	57,07	62,0
15	24,05	26,1	28,86	31,4	38,48	41,6	45,81	48,9	45,81	49,9	61,08	66,1
16	25,63	27,7	30,75	33,3	41,01	44,2	48,82	52,0	48,82	53,0	65,10	70,2
17	27,21	29,3	32,65	35,2	43,54	46,8	51,84	55,0	51,84	56,0	69,12	74,3
18	28,79	30,9	34,55	37,2	46,07	49,5	54,85	58,1	54,85	59,1	73,14	78,4
19	30,38	32,5	36,45	39,1	48,60	51,9	57,87	61,2	57,87	62,2	77,16	82,5
20	31,96	34,2	38,36	41,1	51,14	54,5	60,89	64,2	60,89	65,2	81,18	86,6
21	33,55	35,7	40,26	43,0	53,68	57,1	63,91	67,3	63,91	68,3	85,21	90,6
22	35,13	37,3	42,16	44,9	56,21	59,6	66,93	70,3	66,93	71,3	89,24	94,7
23	36,72	38,9	44,06	46,8	58,75	62,2	69,95	73,4	69,95	74,4	93,27	98,8
24	38,31	40,5	45,97	48,8	61,29	64,8	72,97	76,4	72,97	77,4	97,30	102,9
25	39,89	42,2	47,87	50,7	63,83	67,3	76,00	79,5	76,00	80,5	101,33	106,9
26	41,48	43,7	49,78	52,6	66,37	69,9	79,02	82,5	79,02	83,5	105,36	111,0
27	43,07	45,3	51,68	54,5	68,91	72,4	82,05	85,6	82,05	86,6	109,40	115,0
28	44,66	46,9	53,59	56,4	71,45	75,0	85,07	88,6	85,07	89,6	113,43	119,1
29	46,25	48,5	55,49	58,4	73,99	77,5	88,10	91,7	88,10	92,7	117,46	123,2
30	47,83	50,1	57,40	60,3	76,53	80,1	91,12	94,7	91,12	95,7	121,50	127,2
31	49,42	51,7	59,31	62,2	79,08	82,7	94,15	97,8	94,15	98,8	125,53	131,3
32	51,01	53,3	61,21	64,1	81,62	85,7	97,18	100,8	97,18	101,8	129,57	135,3
33	52,60	54,9	63,12	66,0	84,16	87,8	100,20	103,8	100,20	104,8	133,61	139,4
34	54,19	56,5	65,03	67,9	86,70	90,3	103,23	106,9	103,23	107,9	137,64	143,4
35	55,78	58,2	66,93	69,8	89,25	92,9	106,26	109,9	106,26	110,9	141,68	147,5
36	57,37	59,7	68,84	71,8	91,79	95,4	109,29	113,0	109,29	114,0	145,72	151,5
37	58,96	61,3	70,75	73,7	94,33	98,0	112,31	116,0	112,31	117,0	149,75	155,6
38	60,55	62,9	72,66	75,6	96,88	100,5	115,34	119,0	115,34	120,0	153,79	159,6
39	62,14	64,5	74,57	77,5	99,42	103,1	118,37	122,1	118,37	123,1	157,83	163,7
40	63,73	66,1	76,47	79,4	101,96	105,6	121,40	125,1	121,40	126,1	161,87	167,7
41	65,32	67,7	78,38	81,3	104,51	108,2	124,43	128,1	124,43	129,1	165,91	171,8
42	66,91	69,3	80,29	83,2	107,05	110,7	127,46	131,2	127,46	132,2	169,95	175,9
43	68,50	70,9	82,20	85,2	109,60	113,3	130,49	134,2	130,49	135,2	173,98	179,9
44	70,09	72,5	84,11	87,1	112,14	115,8	133,52	137,2	133,52	138,2	178,02	184,0
45	71,68	74,1	86,01	89,0	114,68	118,4	136,55	140,3	136,55	141,3	182,06	188,0
46	73,27	75,7	87,92	90,9	117,23	120,9	139,58	143,3	139,58	144,3	186,10	192,0
47	74,86	77,3	89,83	92,8	119,77	123,5	142,61	146,4	142,61	147,4	190,14	196,1
48	76,45	78,8	91,74	94,7	122,32	126,0	145,64	149,4	145,64	150,4	194,18	200,1
49	78,04	80,4	93,65	96,6	124,86	128,6	148,67	152,4	148,67	153,4	198,22	204,2
50	79,63	82,0	95,56	98,5	127,41	131,1	151,70	155,5	151,70	156,5	202,26	208,2
51	81,22	83,6	97,46	100,5	129,95	133,7	154,73	158,5	154,73	159,5	206,30	212,3
52	82,81	85,2	99,37	102,4	132,50	136,2	157,75	161,5	157,75	162,5	210,34	216,3
53	84,40	86,8	101,28	104,3	135,04	138,8	160,78	164,5	160,78	165,6	214,38	220,4
54	85,99	88,4	103,19	106,2	137,59	141,3	163,81	167,6	163,81	168,6	218,42	224,4
55	87,58	90,0	105,10	108,1	140,13	143,9	166,85	170,6	166,85	171,6	222,46	228,5
56	89,17	91,6	107,01	110,0	142,68	146,4	169,88	173,7	169,88	174,7	226,50	232,5
57	90,76	93,2	108,92	111,9	145,22	149,0	172,91	176,7	172,91	177,7	230,54	236,6
58	92,36	94,8	110,83	113,8	147,77	151,5	175,94	179,8	175,94	180,8	234,58	240,6
59	93,95	96,4	112,74	115,8	150,31	154,1	178,97	182,8	178,97	183,8	238,62	244,7
60	95,54	98,0	114,64	117,7	152,86	156,7	182,00	185,8	182,00	186,8	242,66	248,7
61	97,13	99,6	116,55	119,6	155,40	159,2	185,03	188,9	185,03	189,9	246,70	252,8
62	98,72	101,2	118,46	121,5	157,95	161,7	188,06	191,9	188,06	192,9	250,74	256,8
63	100,31	102,7	120,37	123,4	160,50	164,3	191,09	194,9	191,09	195,9	254,79	260,9
64	101,90	104,3	122,28	125,3	163,04	166,8	194,12	198,0	194,12	199,0	258,83	264,9
65	103,49	105,9	124,19	127,2	165,59	169,4	197,15	201,0	197,15	202,0	262,87	268,9
66	105,08	107,5	126,10	129,1	168,13	171,9	200,18	204,0	200,18	205,0	266,91	273,0
67	106,67	109,1	128,01	131,0	170,68	174,5	203,21	207,1	203,21	208,1	270,95	277,0
68	108,26	110,7	129,92	132,9	173,22	177,0	206,24	210,1	206,24	211,1	274,99	281,1
69	109,86	112,3	131,83	134,9	175,77	179,6	209,27	213,1	209,27	214,1	279,03	285,1
70	111,45	113,9	133,74	136,8	178,31	182,1	212,30	216,2	212,30	217,2	283,07	289,2

All dimensions in mm