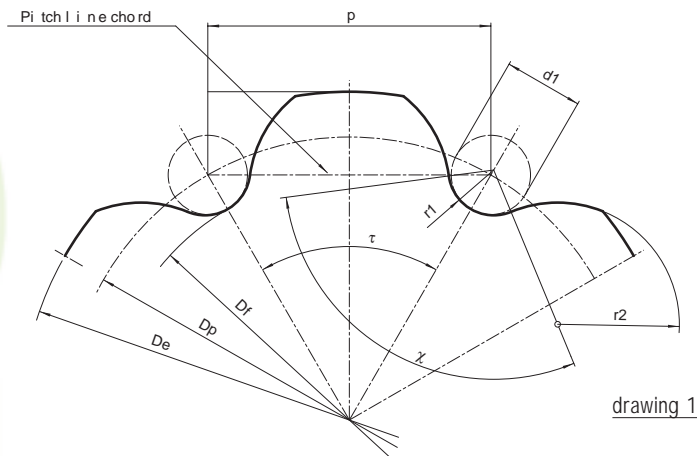
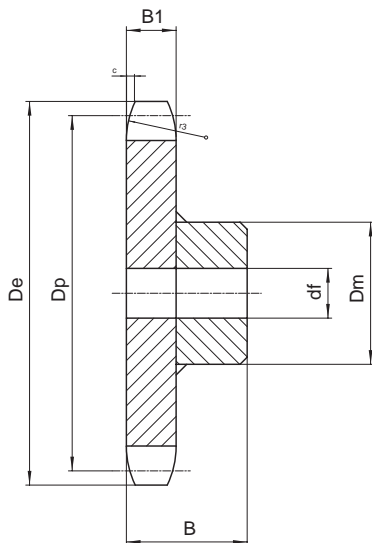


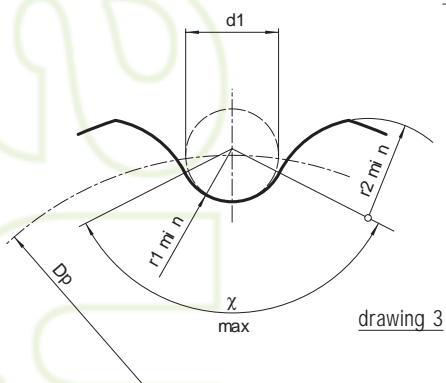
SPROCKETS



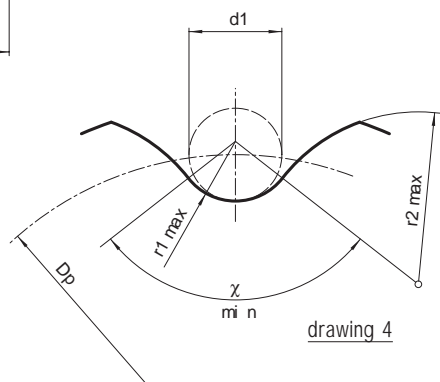
drawing 1



drawing 2



drawing 3



drawing 4

LEGENDA

p	chain pitch	r_1	radius of the roller seat	z	number of teeth
d_1	roller diameter	τ	pitch angle	B_1	tooth width
D_p	pitch diameter	χ	angle of the roller seat	c	release of the tooth flank
D_f	bottom-land diameter	r_2	radius of the tooth flank	r_3	radius of the tooth head
D_e	outer diameter				

SPROCKETS

For the dimensioning of the sprockets we propose the following calculation scheme. The suggested method obviously can not satisfy all possible needs, but it wants to be only a guiding trail to the project of these elements.

PITCH DIAMETER (See drawings 1-2)

$$D_p = \frac{P}{\sin \frac{\tau}{2}} = p \cdot y$$

$$\frac{\tau}{2} = \frac{180^\circ}{z}$$

y = fixed number of table no.8

TABLE 8

No. of Theet	Fixed no. y	No. of Theet	Fixed no. y	No. of Theet	Fixed no. y
6	2,000	21	6,709	36	11,474
7	2,305	22	7,027	37	11,792
8	2,613	23	7,344	38	12,110
9	2,924	24	7,661	39	12,428
10	3,236	25	7,979	40	12,745
11	3,549	26	8,296	41	13,063
12	3,864	27	8,614	42	13,381
13	4,179	28	8,931	43	13,700
14	4,494	29	9,249	44	14,018
15	4,810	30	9,567	45	14,336
16	5,126	31	9,885	46	14,654
17	5,442	32	10,202	47	14,972
18	5,759	33	10,520	48	15,290
19	6,076	34	10,838	49	15,608
20	6,392	35	11,156	50	15,926

DIAMETER OF THE TOOTH BOTTOM (See drawing 1)

$$D_f = D_p - d_1$$

DIMENSIONS OF THE HOUSING OF THE ROLLER (See drawings 3-4)

Minimum dimensions:

$$r1_{\min} = 0,505 \cdot d_1$$

$$\chi_{\max} = 140^\circ - \frac{90^\circ}{z}$$

$$r2_{\min} = 0,12 \cdot d_1 \cdot (z+2)$$

Maximum dimensions:

$$r1_{\max} = 0,505 \cdot d_1 + 0,069 \cdot \sqrt[3]{d_1}$$

$$\chi_{\min} = 120^\circ - \frac{90^\circ}{z}$$

$$r2_{\max} = 0,008 \cdot d_1 \cdot (z^2+180)$$

OUTER DIAMETER (See drawings 1-2)

Maximum value:

$$D_e \max = D_p + 0,8 d_1$$

Minimum value:

$$D_e \min = D_p + 0,5 d_1$$

SECTION OF THE TOOTH (See drawing 2)

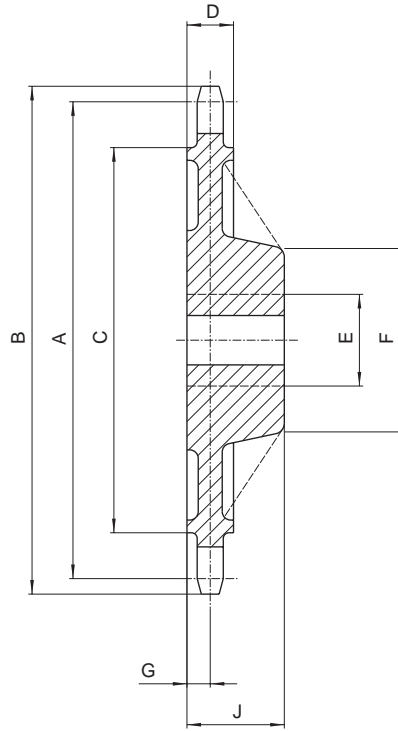
$$B_1 = (0,90 \div 0,93) \cdot L$$

L = inner width of the chain

$$0,1 \cdot p \leq c \leq 0,15 \cdot p$$

$$r_3 \leq p$$

STOCK SPROCKETS - CAST IRON CAST TOOTH SINGLE SIDED SOLID BOSS TO SUIT PLAIN ROLLERS



ZC21 SERIES
(4500lb)

Chain pitch (mm.)	No. of teeth	A P.C.D.	B Top Dia.	F Boss Dia.	E Max Bore	J Distance Thru'
38,1	8	99,57	105,00	57,00	32,00	38,00
"	12	147,22	157,00	76,00	38,00	45,00
50,8	8	132,74	142,00	76,00	38,00	45,00
"	12	196,27	207,00	89,00	45,00	51,00
63,5	8	165,94	175,00	76,00	38,00	45,00

Z40/ZC40 SERIES
(6000/7500lb)

Chain pitch (mm.)	No. of teeth	A P.C.D.	B Top Dia.	F Boss Dia.	E Max Bore	J Distance Thru'
50,8	6	101,60	110,83	58,00	32,00	51,00
"	8	132,74	144,00	76,00	38,00	51,00
"	12	196,29	212,00	102,00	50,00	51,00
"	14	228,29	245,00	104,00	50,00	55,00
"	16	260,40	278,00	114,00	64,00	64,00
76,2	6	152,40	166,00	93,00	50,00	55,00
"	8	199,11	215,00	102,00	50,00	51,00
"	10	246,58	264,00	114,00	65,00	64,00
"	12	294,44	314,00	114,00	65,00	64,00
"	16	390,60	413,00	140,00	70,00	76,00
101,6	8	265,48	281,00	114,00	65,00	64,00
"	10	328,78	347,00	114,00	65,00	64,00
"	12	392,56	411,00	127,00	70,00	70,00
152,4	8	398,22	414,00	127,00	70,00	70,00

STOCK SPROCKETS - CAST IRON CAST TOOTH SINGLE SIDED SOLID BOSS TO SUIT PLAIN ROLLERS

Z100/ZC60 SERIES
(12000/15000lb)

Chain pitch (mm.)	No. of teeth	A P.C.D.	B Top Dia.	F Boss Dia.	E Max Bore	J Distance Thru'
76,2	8	199,11	218,00	114,00	70,00	70,00
"	12	294,41	318,00	133,00	75,00	76,00
101,6	8	265,51	286,00	127,00	70,00	70,00
"	10	328,78	350,00	127,00	70,00	70,00
"	12	392,56	415,00	140,00	76,00	76,00
"	16	520,78	547,00	165,00	83,00	102,00
152,4	8	398,25	418,00	140,00	80,00	76,00
"	12	588,82	612,00	165,00	90,00	89,00

Z160/ZC150 SERIES
(24000/30000lb)

Chain pitch (mm.)	No. of teeth	A P.C.D.	B Top Dia.	F Boss Dia.	E Max Bore	J Distance Thru'
101,6	8	265,51	290,00	152,00	85,00	83,00
"	10	328,78	345,00	165,00	85,00	95,00
"	16	520,78	552,00	191,00	102,00	102,00
152,4	8	398,25	43,00	165,00	95,00	95,00
"	12	588,82	617,00	196,00	110,00	130,00

Z300/ZC300 SERIES
(36000/45000lb)

Chain pitch (mm.)	No. of teeth	A P.C.D.	B Top Dia.	F Boss Dia.	E Max Bore	J Distance Thru'
152,40	8	398,25	423,72	203,2	101,6	101,6
"	10	493,17	535,00	204,00	95,00	110,0

Sprockets in alternative materials and number of teeth can be supplied to order.