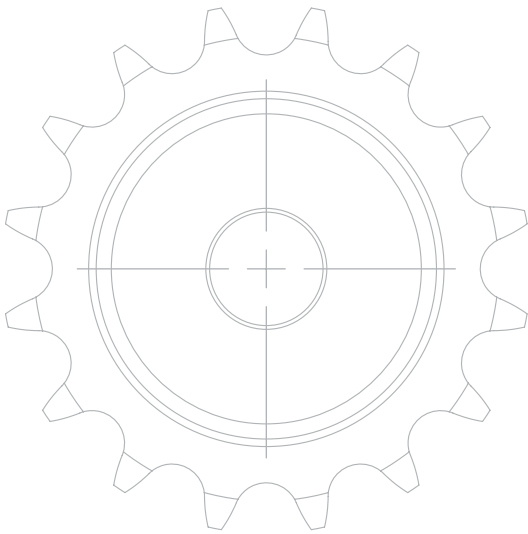
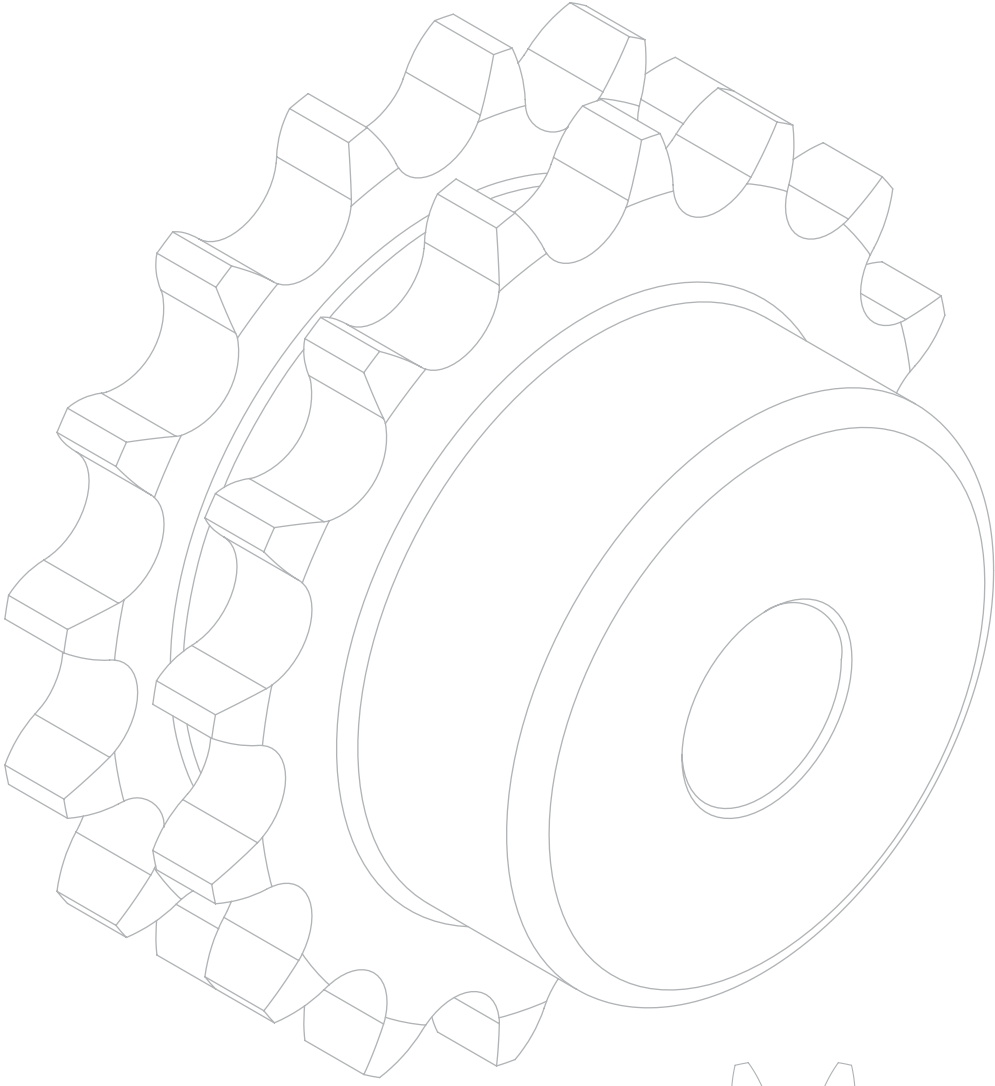
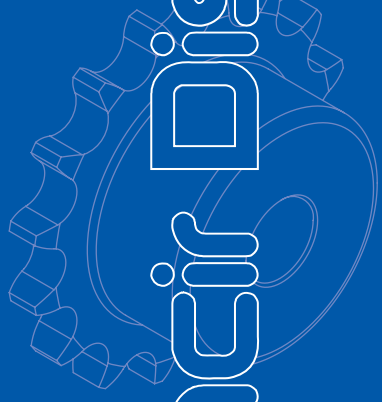


Zincir Dişli



Zincir Dişli Grubu

ZİNCİR DİŞLİ HESAPLARI (DIN8187-ISO/R606)

t	: Adım
Z	: Diş Sayısı
da	: Diş Üstü Çapı
do	: Bölüm Dairesi Çapı
df	: Diş Dibi Çapı
ds	: Sürtünme Çapı
D	: Makara Çapı
dgmax	: Maksimum Göbek Çapı (Ara çap)
n	: Bölüm Dairesi İçin 'n' Değeri (Tablodan)
q	: Diş Dibi Kontrolü İçin 'q' Değeri (Tablodan)
B1,B2,B3,b1	: Diş Kalınlıkları
W	: Zincir Ara Genişliği
k	: Maksimum Göbek Çapı İçin Kat Sayı
C	: Dişli Yanak Radyus Derinliği
r	: Diş Yanak Radyusu
MRC, MRT	: Pim Üstü Kontrolü (Diş sayısı çift/tek)
MDC, MDT	: Diş Dibi Kontrolü (Diş sayısı çift/tek)
Ce	: Zincir Dişli Eksenler Arası Mesafe
CL	: Bulunan Zincire En Uygun Eksenler Arası Mesafe
Z1, Z2	: Diş Sayısı (Büyük/Küçük)
Lbakla	: Toplam Zincir Bakla Sayısı (Zincir Uzunluğu)

Bölüm Dairesi Çapı

$$do = \frac{t}{\sin(180^\circ / Z)} = t \cdot n$$

Diş Üstü Çapı

$$da_{max} = do + 1,25t - D$$

$$da_{min} = do + (1 - \frac{1,6}{Z})t - D$$

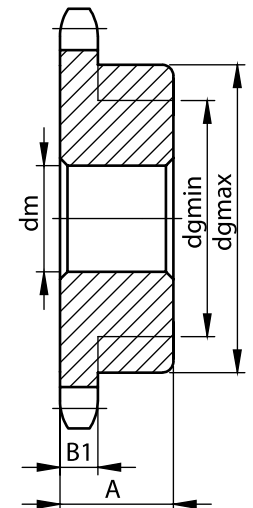
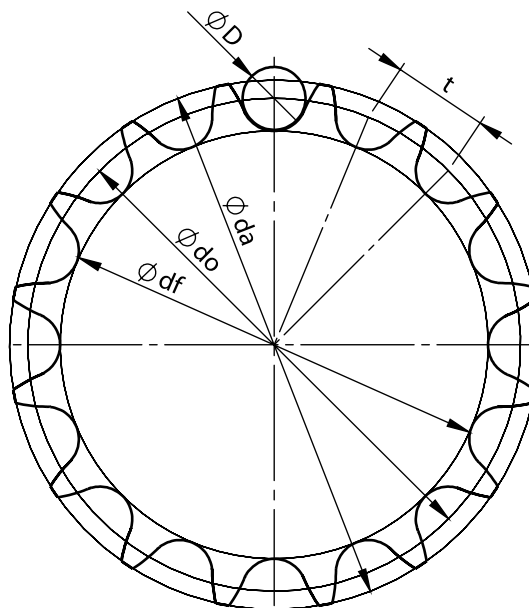
$$da \sim = do + (0,8.D)$$

Diş Dibi Çapı

$$df = do - D$$

Maksimum Göbek Çapı

$$dg_{max} \sim = do - k$$



Adım (mm/inç)	k	Adım (mm/inç)	k	Adım (mm/inç)	k
5mm	6	1/2"	15,3	1" 1/4	32,4
6mm	7	5/8"	18,7	1" 1/2	40
8mm	10	3/4"	20,6	1" 3/4	45,1
3/8"	12	1"	26,3	2"	52,3

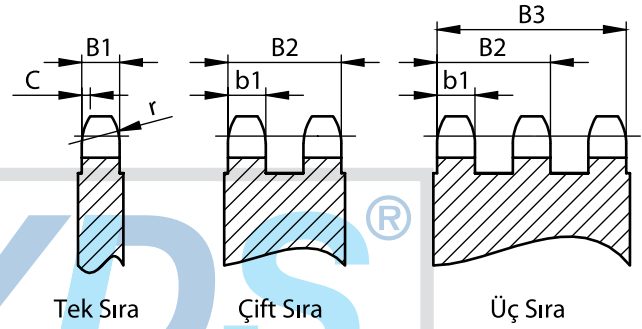
Diş Kalınlığı	t≤12,7	t≥12,7
Tek Sıra Dişlide B1	0,93.W	0,95.W
Çift ve Üç Sıra Dişlide b1	0,91.W	0,93.W
Üç Sıradan Fazla Dişlide b1	0,88.W	0,93.W

Dişli Yanak Radyus Derinliği

$$C_{\min} = 0,1t \quad C_{\max} = 0,15t$$

Diş Yanak Radyusu

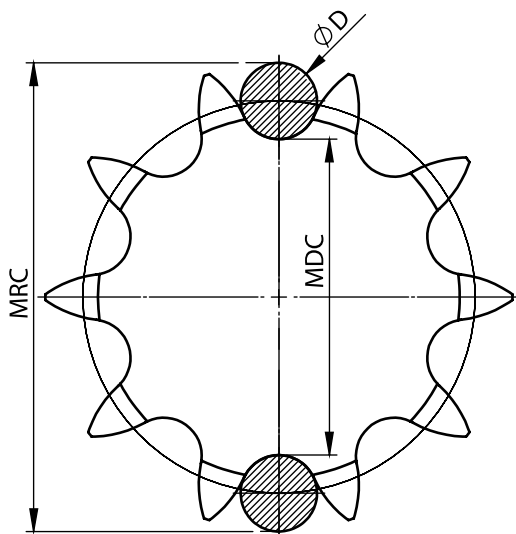
$$r \geq t$$

**Pim Üstü Kontrolü**

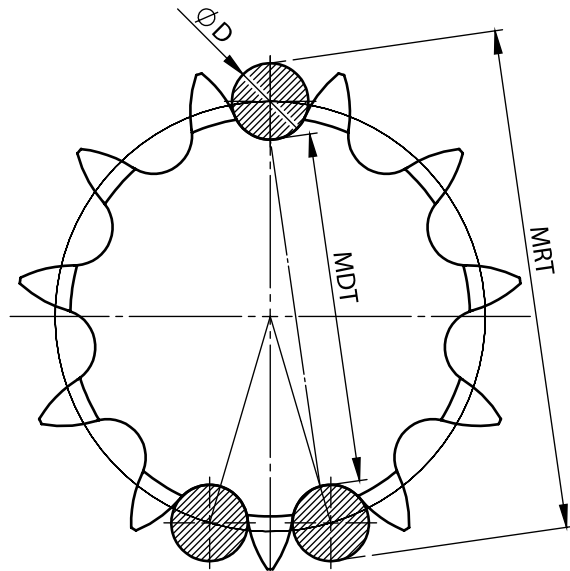
$$MRC = do + D \quad MRT = do \cdot \cos \frac{90^\circ}{Z} + D = do \cdot q + D$$

Diş Dibi Kontrolü

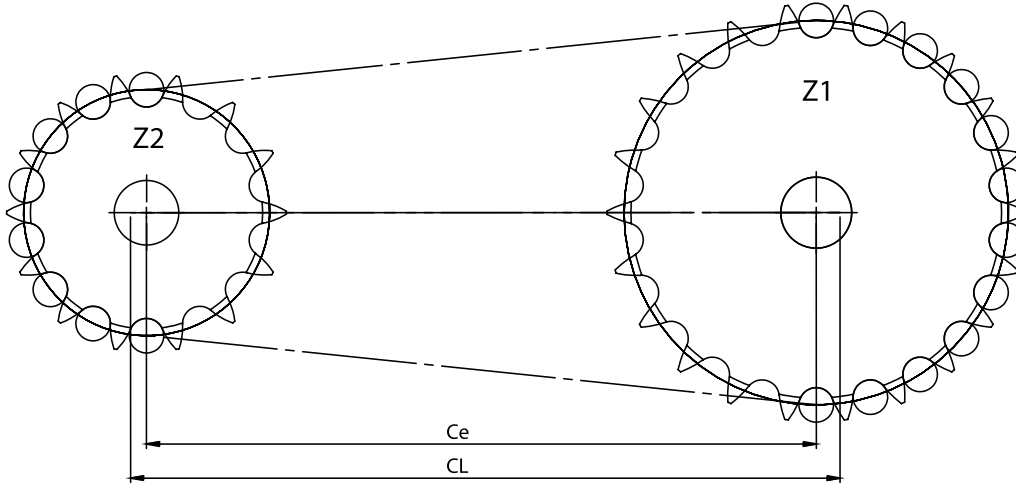
$$MDC = df \quad MDT = df \cdot \cos \frac{90^\circ}{Z} = df \cdot q$$



Z ÇİFT



Z TEK


Toplam Zincir Bakla Sayısı (Zincir Uzunluğu) Hesaplama

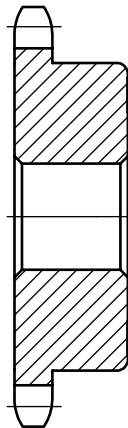
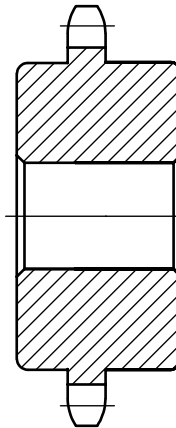
$$L_{bakla} = 2 \cdot \frac{Ce}{t} + \frac{Z_1 + Z_2}{2} + \frac{(Z_1 - Z_2)^2}{4 \cdot \pi^2 \cdot (Ce/t)} \quad (\text{Sonucu yukarı tam sayıya yuvarla, bu değer zincir bakla sayısıdır})$$

Not: Lbakla değeri yukarı tam sayıya yuvarlandıktan sonra adım(t) ile çarpılırsa kullanılacak zincir uzunluğu bulunmuş olur.

$$CL = \frac{L_{bakla} - \frac{Z_1 + Z_2}{2} + \sqrt{\left(L_{bakla} - \frac{Z_1 + Z_2}{2}\right)^2 - 8 \cdot \frac{(Z_1 - Z_2)^2}{4 \cdot \pi^2}}}{4} \cdot t$$

Not: CL verilen değerlere ve bulunan zincir baklasına en uygun eksenler arası mesafeyi verir.
(CL formülünde Lbakla değeri olarak yukarı yuvarlanmış tam sayıyı kullanınız.)

GENEL ZİNCİR DİŞLİ TİPLERİ

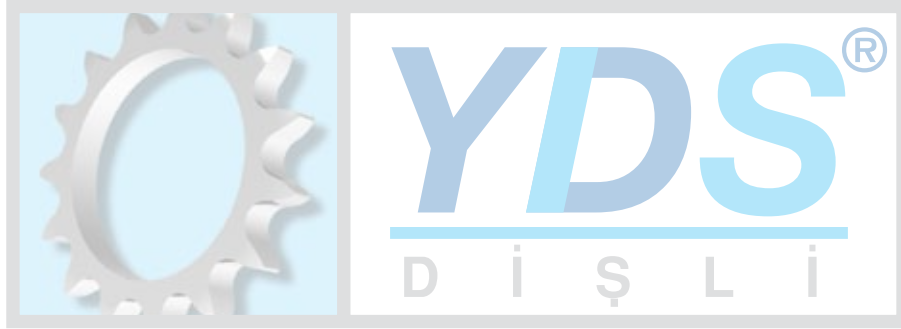
TİP A

TİP B

TİP C

ZİNCİR DİŞLİ GENEL TOLERANSLAR

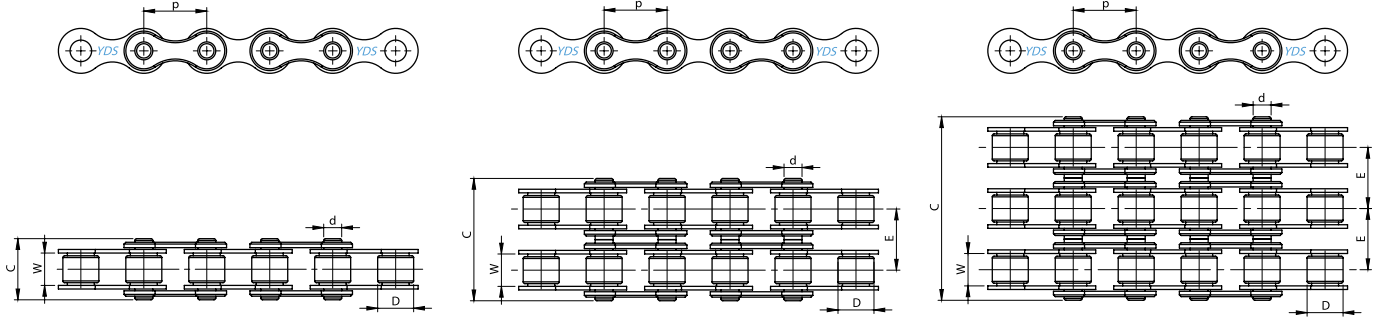
Diş dibi çapı	: h11
Diş üstü çapı	: +/-3mm
Diş kalınlığı	: h14
Delik çapı (dm)	: H8
Göbek çapı (dg)	: +/-3mm
Delik-Diş dibi eksenel kaçıklık	: 0,0008.df+(0,08 yada 0,15) maksimum kaçıklık=0,76mm
Yanal yalpalama	: 0,0009.df+0,08 maksimum yalpalama=1,14mm (Kaynaklı Göbekte)
Toplam kalınlık (A)	: +/-1mm (kaynaklı göbeklerde +/-2mm)

*Farklılık Gösteren Toleranslar Ürünlerimizin İlgili Kısımlarında Belirtilmiştir.

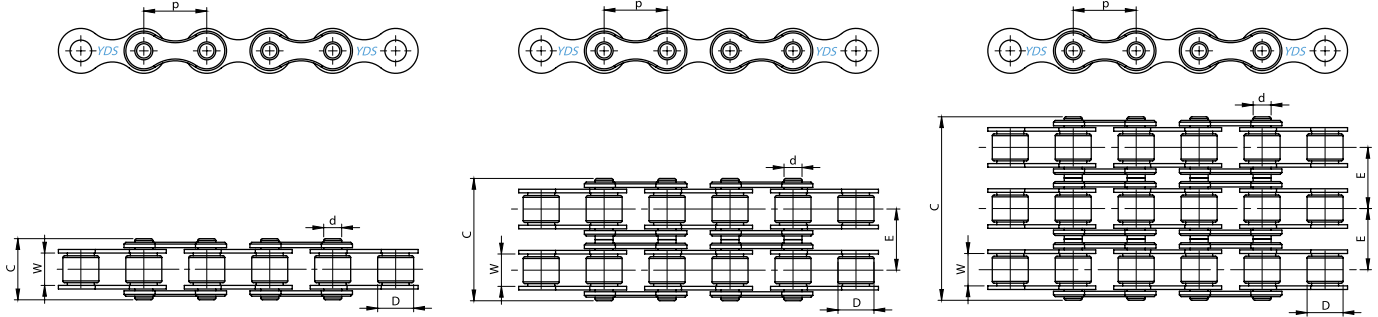
*Tüm Ürünlerimizin İmalatında TS 1845 ve TS 1980 Tolerans Standartları Kullanılmaktadır.



Z	n	q	Z	n	q	Z	n	q	Z	n	q
6	2.00000	-	55	17.51657	0.99959	104	33.10926	-	153	48.70483	0.99995
7	2.30476	0.97493	56	17.83471	-	105	33.42753	0.99989	154	49.02312	-
8	2.61313	-	57	18.15285	0.99962	106	33.74579	-	155	49.34141	0.99995
9	2.92380	0.98481	58	18.47100	-	107	34.06405	0.99989	156	49.65970	-
10	3.23607	-	59	18.78916	0.99965	108	34.38232	-	157	49.97799	0.99995
11	3.54947	0.98982	60	19.10732	-	109	34.70058	0.99990	158	50.29628	-
12	3.86370	-	61	19.42549	0.99967	110	35.01885	-	159	50.61457	0.99995
13	4.17858	0.99271	62	19.74366	-	111	35.33711	0.99990	160	50.93285	-
14	4.49396	-	63	20.06184	0.99969	112	35.65538	-	161	51.25114	0.99995
15	4.80973	0.99452	64	20.38002	-	113	35.97365	0.99990	162	51.56943	-
16	5.12583	-	65	20.69820	0.99971	114	36.29192	-	163	51.88772	0.99995
17	5.44219	0.99573	66	21.01639	-	115	36.61019	0.99991	164	52.20601	-
18	5.75877	-	67	21.33458	0.99973	116	36.92846	-	165	52.52430	0.99995
19	6.07553	0.99658	68	21.65277	-	117	37.24673	0.99991	166	52.84260	-
20	6.39245	-	69	21.97097	0.99974	118	37.56500	-	167	53.16089	0.99996
21	6.70951	0.99720	70	22.28917	-	119	37.88328	0.99991	168	53.47918	-
22	7.02667	-	71	22.60738	0.99976	120	38.20155	-	169	53.79747	0.99996
23	7.34394	0.99767	72	22.92559	-	121	38.51982	0.99992	170	54.11576	-
24	7.66130	-	73	23.24380	0.99977	122	38.83810	-	171	54.43405	0.99996
25	7.97873	0.99803	74	23.56201	-	123	39.15637	0.99992	172	54.75234	-
26	8.29623	-	75	23.88022	0.99978	124	39.47465	-	173	55.07064	0.99996
27	8.61379	0.99831	76	24.19844	-	125	39.79292	0.99992	174	55.38893	-
28	8.93140	-	77	24.51666	0.99979	126	40.11120	-	175	55.70722	0.99996
29	9.24907	0.99853	78	24.83489	-	127	40.42948	0.99992	176	56.02552	-
30	9.56677	-	79	25.15311	0.99980	128	40.74776	-	177	56.34381	0.99996
31	9.88452	0.99872	80	25.47134	-	129	41.06603	0.99993	178	56.66210	-
32	10.20230	-	81	25.78957	0.99981	130	41.38431	-	179	56.98039	0.99996
33	10.52011	0.99887	82	26.10780	-	131	41.70259	0.99993	180	57.29869	-
34	10.83795	-	83	26.42603	0.99982	132	42.02087	-	181	57.61698	0.99996
35	11.15582	0.99899	84	26.74426	-	133	42.33915	0.99993	182	57.93528	-
36	11.47371	-	85	27.06250	0.99983	134	42.65743	-	183	58.25357	0.99996
37	11.79163	0.99910	86	27.38074	-	135	42.97571	0.99993	184	58.57186	-
38	12.10957	-	87	27.69898	0.99984	136	43.29399	-	185	58.89016	0.99996
39	12.42752	0.99919	88	28.01722	-	137	43.61228	0.99993	186	59.20845	-
40	12.74549	-	89	28.33546	0.99984	138	43.93056	-	187	59.52675	0.99996
41	13.06348	0.99927	90	28.65371	-	139	44.24884	0.99994	188	59.84504	-
42	13.38149	-	91	28.97195	0.99985	140	44.56712	-	189	60.16334	0.99997
43	13.69951	0.99933	92	29.29020	-	141	44.88541	0.99994	190	60.48163	-
44	14.01754	-	93	29.60845	0.99986	142	45.20369	-	191	60.79993	0.99997
45	14.33559	0.99939	94	29.92670	-	143	45.52198	0.99994	192	61.11823	-
46	14.65364	-	95	30.24495	0.99986	144	45.84026	-	193	61.43652	0.99997
47	14.97171	0.99944	96	30.56320	-	145	46.15854	0.99994	194	61.75482	-
48	15.28979	-	97	30.88146	0.99987	146	46.47683	-	195	62.07311	0.99997
49	15.60788	0.99949	98	31.19971	-	147	46.79512	0.99994	196	62.39141	-
50	15.92597	-	99	31.51797	0.99987	148	47.11340	-	197	62.70971	0.99997
51	16.24408	0.99953	100	31.83623	-	149	47.43169	0.99994	198	63.02800	-
52	16.56219	-	101	32.15448	0.99988	150	47.74997	-	199	63.34630	0.99997
53	16.88031	0.99956	102	32.47274	-	151	48.06826	0.99995	200	63.66460	-
54	17.19843	-	103	32.79100	0.99988	152	48.38655	-	201	63.98289	0.99997



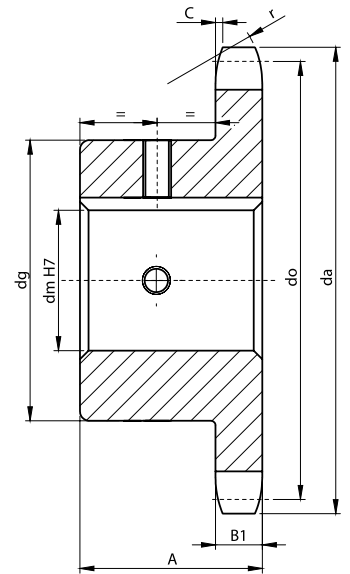
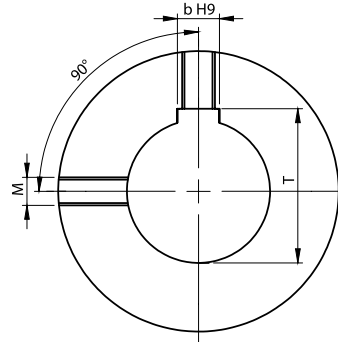
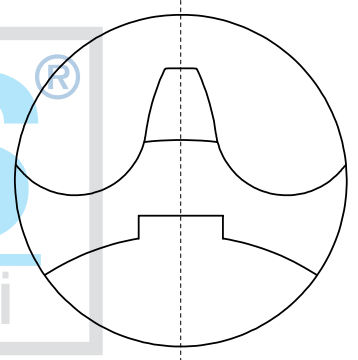
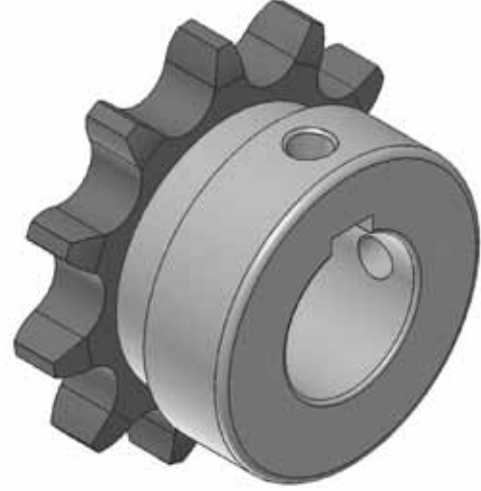
DIN / ISO No	Std. Gösterim	p mm	W mm	D mm	d mm	E mm	Cmax mm
03 B-1	5 x 2,5 mm	5.00	2.50	3.20	1.49	-	7.40
04 B-1	6 x 2,8 mm	6.00	2.80	4.00	1.85	-	8.30
05 B-1	8 x 3 mm	8.00	3.00	5.00	2.31	-	8.60
05 B-2	8 x 3 mm	8.00	3.00	5.00	2.31	5.64	14.30
05 B-3	8 x 3 mm	8.00	3.00	5.00	2.31	5.64	19.90
06 B-1	3/8" x 7/32"	9.525	5.72	6.35	3.28	-	13.50
06 B-2	3/8" x 7/32"	9.525	5.72	6.35	3.28	10.24	23.80
06 B-3	3/8" x 7/32"	9.525	5.72	6.35	3.28	10.24	34.00
081-1	1/2" x 1/8"	12.70	3.48	7.75	3.68	-	11.00
083-1	1/2" x 3/16"	12.70	4.90	7.75	4.09	-	16.30
08 B-1	1/2" x 5/16"	12.70	7.75	8.51	4.45	-	20.50
08 B-2	1/2" x 5/16"	12.70	7.75	8.51	4.45	13.92	31.20
08 B-3	1/2" x 5/16"	12.70	7.75	8.51	4.45	13.92	45.10
10 B-1	5/8" x 3/8"	15.875	9.65	10.16	5.08	-	19.60
10 B-2	5/8" x 3/8"	15.875	9.65	10.16	5.08	16.59	36.20
10 B-3	5/8" x 3/8"	15.875	9.65	10.16	5.08	16.59	52.80
12 B-1	3/4" x 7/16"	19.05	11.68	12.07	5.72	-	22.70
12 B-2	3/4" x 7/16"	19.05	11.68	12.07	5.72	19.46	42.20
12 B-3	3/4" x 7/16"	19.05	11.68	12.07	5.72	19.46	61.70
16 B-1	1" x 17,02 mm	25.40	17.02	15.88	8.28	-	36.10
16 B-2	1" x 17,02 mm	25.40	17.02	15.88	8.28	31.88	68.00
16 B-3	1" x 17,02 mm	25.40	17.02	15.88	8.28	31.88	99.90
20 B-1	1" 1/4 x 3/4"	31.75	19.56	19.05	10.19	-	43.20
20 B-2	1" 1/4 x 3/4"	31.75	19.56	19.05	10.19	36.45	79.00
20 B-3	1" 1/4 x 3/4"	31.75	19.56	19.05	10.19	36.45	116.00
24 B-1	1" 1/2 x 1"	38.10	25.40	25.40	14.63	-	53.40
24 B-2	1" 1/2 x 1"	38.10	25.40	25.40	14.63	48.36	101.70
24 B-3	1" 1/2 x 1"	38.10	25.40	25.40	14.63	48.36	150.10
28 B-1	1" 3/4 x 1" 1/4	44.45	30.99	27.94	15.90	-	65.10
28 B-2	1" 3/4 x 1" 1/4	44.45	30.99	27.94	15.90	59.56	124.60
28 B-3	1" 3/4 x 1" 1/4	44.45	30.99	27.94	15.90	59.56	184.20
32 B-1	2" x 1" 1/4	50.80	30.99	29.21	17.81	-	67.40
32 B-2	2" x 1" 1/4	50.80	30.99	29.21	17.81	58.55	126.00
32 B-3	2" x 1" 1/4	50.80	30.99	29.21	17.81	58.55	184.20



ASA / ANSI No	DIN / ISO No	Std. Gösterim	p mm	W mm	D mm	d mm	E mm	Cmax mm
25-1	04 C-1	1/4" x 1/8"	6.35	3.18	3.30	2.31	-	9.10
35-1	06 C-1	3/8" x 3/16"	9.525	4.77	5.08	3.58	-	13.20
35-2	06 C-2	3/8" x 3/16"	9.525	4.77	5.08	3.58	10.13	22.50
35-3	06 C-3	3/8" x 3/16"	9.525	4.77	5.08	3.58	10.13	32.70
40-1	08 A-1	1/2" x 5/16"	12.70	7.94	7.94	3.96	-	17.80
40-2	08 A-2	1/2" x 5/16"	12.70	7.94	7.94	3.96	14.38	32.30
40-3	08 A-3	1/2" x 5/16"	12.70	7.94	7.94	3.96	14.38	46.70
50-1	10 A-1	5/8" x 3/8"	15.875	9.52	10.16	5.08	-	21.80
50-2	10 A-2	5/8" x 3/8"	15.875	9.52	10.16	5.08	18.11	39.90
50-3	10 A-3	5/8" x 3/8"	15.875	9.52	10.16	5.08	18.11	57.90
60-1	12 A-1	3/4" x 1/2"	19.05	12.70	11.91	5.94	-	26.90
60-2	12 A-2	3/4" x 1/2"	19.05	12.70	11.91	5.94	22.78	49.80
60-3	12 A-3	3/4" x 1/2"	19.05	12.70	11.91	5.94	22.78	75.50
80-1	16 A-1	1" x 5/8"	25.40	15.88	15.88	7.92	-	33.50
80-2	16 A-2	1" x 5/8"	25.40	15.88	15.88	7.92	29.29	63.00
80-3	16 A-3	1" x 5/8"	25.40	15.88	15.88	7.92	29.29	92.00
100-1	20 A-1	1" 1/4 x 3/4"	31.75	19.05	19.05	9.53	-	41.10
100-2	20 A-2	1" 1/4 x 3/4"	31.75	19.05	19.05	9.53	35.76	77.00
100-3	20 A-3	1" 1/4 x 3/4"	31.75	19.05	19.05	9.53	35.76	113.00
120-1	24 A-1	1" 1/2 x 1"	38.10	25.40	22.22	11.10	-	52.00
120-2	24 A-2	1" 1/2 x 1"	38.10	25.40	22.22	11.10	45.44	99.50
120-3	24 A-3	1" 1/2 x 1"	38.10	25.40	22.22	11.10	45.44	144.40
140-1	28 A-1	1" 3/4 x 1"	44.45	25.40	25.40	12.70	-	54.90
140-2	28 A-2	1" 3/4 x 1"	44.45	25.40	25.40	12.70	48.87	104.00
140-3	28 A-3	1" 3/4 x 1"	44.45	25.40	25.40	12.70	48.87	152.40
160-1	32 A-1	2" x 1" 1/4	50.80	31.75	28.58	14.28	-	65.50
160-2	32 A-2	2" x 1" 1/4	50.80	31.75	28.58	14.28	58.55	124.00
160-3	32 A-3	2" x 1" 1/4	50.80	31.75	28.58	14.28	58.55	182.50

Delik, Kama ve Setskur Vida Ölçü Tablosu

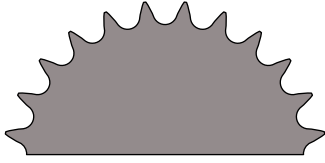
dm (H7)	b (H9)	T	M
10 ^{+0,015} ₋₀	4	D + 1,8 (+0,1/0)	M3
11 ^{+0,018} ₋₀	4	D + 1,8 (+0,1/0)	M3
12 ^{+0,018} ₋₀	4	D + 1,8 (+0,1/0)	M3
14 ^{+0,018} ₋₀	5	D + 2,3 (+0,1/0)	M4
16 ^{+0,018} ₋₀	5	D + 2,3 (+0,1/0)	M4
18 ^{+0,018} ₂₀	6	D + 2,8 (+0,1/0)	M5
19 ^{+0,021} ₋₀	6	D + 2,8 (+0,1/0)	M5
20 ^{+0,021} ₋₀	6	D + 2,8 (+0,1/0)	M5
22 ^{+0,021} ₋₀	6	D + 2,8 (+0,1/0)	M5
24 ^{+0,021} ₋₀	8	D + 3,3 (+0,2/0)	M6
25 ^{+0,021} ₋₀	8	D + 3,3 (+0,2/0)	M6
28 ^{+0,021} ₋₀	8	D + 3,3 (+0,2/0)	M6
29 ^{+0,021} ₋₀	8	D + 3,3 (+0,2/0)	M6
30 ^{+0,021} ₋₀	8	D + 3,3 (+0,2/0)	M6
32 ^{+0,025} ₋₀	10	D + 3,3 (+0,2/0)	M8
35 ^{+0,025} ₋₀	10	D + 3,3 (+0,2/0)	M8
38 ^{+0,025} ₋₀	10	D + 3,3 (+0,2/0)	M8
40 ^{+0,025} ₋₀	12	D + 3,3 (+0,2/0)	M10
42 ^{+0,025} ₋₀	12	D + 3,3 (+0,2/0)	M10
45 ^{+0,025} ₋₀	14	D + 3,8 (+0,2/0)	M12
48 ^{+0,025} ₋₀	14	D + 3,8 (+0,2/0)	M12
50 ^{+0,025} ₋₀	14	D + 3,8 (+0,2/0)	M12
60 ^{+0,030} ₋₀	18	D + 4,4 (+0,2/0)	M12
65 ^{+0,030} ₋₀	18	D + 4,4 (+0,2/0)	M12
70 ^{+0,030} ₋₀	20	D + 4,9 (+0,2/0)	M12
85 ^{+0,035} ₋₀	22	D + 5,4 (+0,2/0)	M16



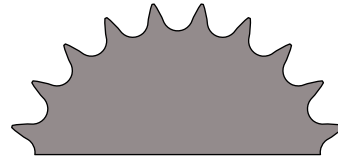
*Kullanıma hazır dişlilerde 90°x2 adet setskur vida ve kama kanalı bulunmaktadır.

*Bu ürünlerimizde müşteri isteğiyle modifikasyon yapılmaktadır.

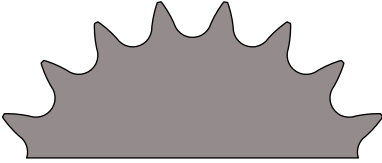
*Kullanıma hazır dişlilerdeki ısıl işlem ve kaplama işlemleri müşteri isteği doğrultusunda yapılmaktadır.



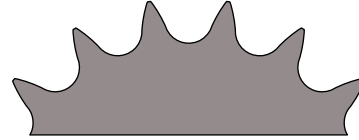
5 mm



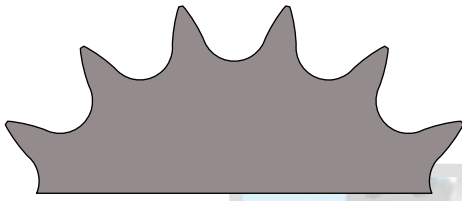
6 mm



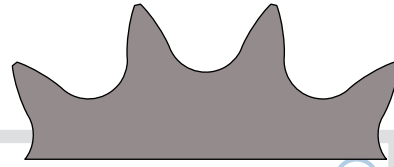
8 mm



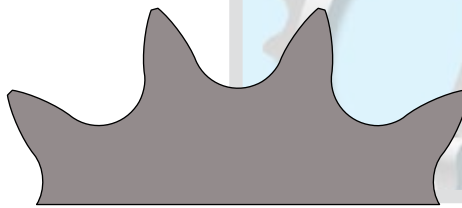
3/8"



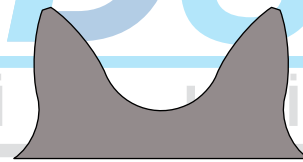
1/2"



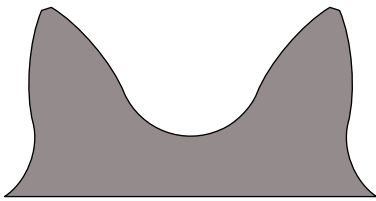
5/8"



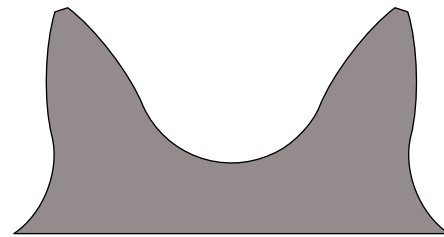
3/4"



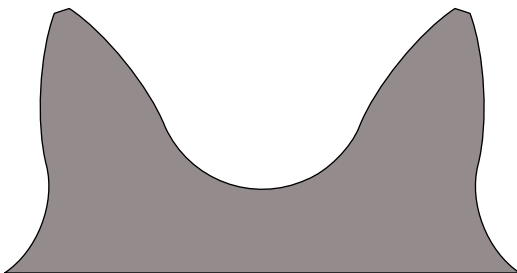
1"



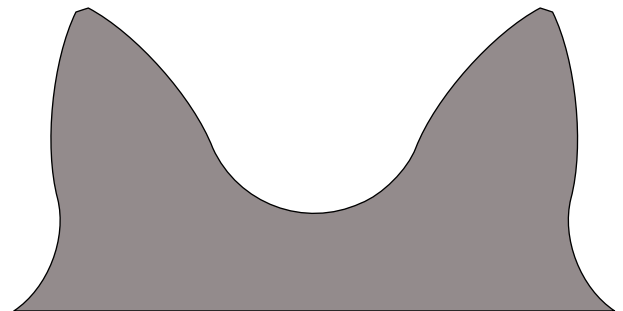
1 1/4"



1 1/2"



1 3/4"



2"

Not: Dişliler Maksimum Dış Çapta Çizilmiştir, %1 Baskı Hatası Olabilir.