

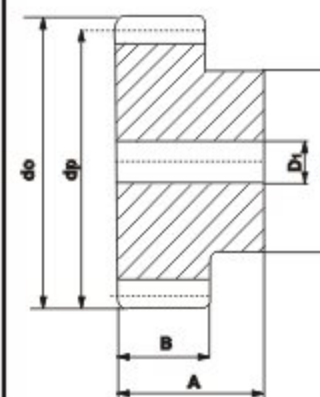
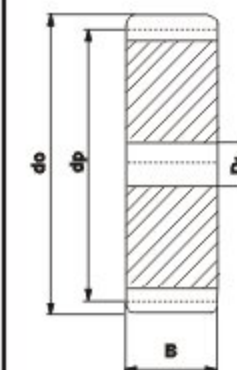


Gears & Racks



Z	Mod.1				Mod.1.5				Mod.2				Mod.2.5			
	de	dp	dm	D1	de	dp	dm	D1	de	dp	dm	D1	de	dp	dm	D1
12	14	12	9	6	21.0	18.0	14	8	28	24	18	10	35.0	30.0	22	10
13	15	13	10	6	22.5	19.5	15	8	30	26	20	10	37.5	32.5	25	10
14	16	14	11	6	24.0	21.0	17	8	32	28	22	10	40.0	35.0	28	10
15	17	15	12	6	25.5	22.5	18	8	34	30	24	10	42.5	37.5	30	10
16	18	16	13	6	27.0	24.0	19	8	36	32	25	10	45.0	40.0	32	12
17	19	17	14	6	28.5	25.5	20	8	38	34	26	10	47.5	42.5	35	12
18	20	18	15	8	30.0	27.0	20	8	40	36	26	10	50.0	45.0	35	12
19	21	19	15	8	31.5	28.5	20	8	42	38	26	10	52.5	47.5	35	12
20	22	20	16	8	33.0	30.0	25	8	44	40	30	10	55.0	50.0	40	12
21	23	21	16	8	34.5	31.5	25	10	46	42	30	12	57.5	52.5	40	14
22	24	22	16	8	36.0	33.0	25	10	48	44	30	12	60.0	55.0	45	14
23	25	23	18	8	37.5	34.5	25	10	50	46	30	12	62.5	57.5	45	14
24	26	24	20	10	39.0	36.0	25	10	52	48	35	12	65.0	60.0	45	14
25	27	25	20	10	40.5	37.5	25	10	54	50	35	12	67.5	62.5	50	14
26	28	26	20	10	42.0	39.0	30	12	56	52	40	12	70.0	65.0	50	14
27	29	27	20	10	43.5	40.5	30	12	58	54	40	12	72.5	67.5	50	14
28	30	28	20	10	45.0	42.0	30	12	60	56	40	12	75.0	70.0	50	14
29	31	29	20	10	46.5	43.5	30	12	62	58	40	14	77.5	72.5	50	14
30	32	30	20	10	48.0	45.0	30	12	64	60	40	14	80.0	75.0	55	14
31	33	31	25	10	49.5	46.5	35	12	66	62	45	14	82.5	77.5	55	16
32	34	32	25	10	51.0	48.0	35	12	68	64	45	14	85.0	80.0	55	16
33	35	33	25	10	52.5	49.5	35	12	70	66	45	14	87.5	82.5	55	16
34	36	34	25	10	54.0	51.0	35	12	72	68	45	14	90.0	85.0	55	16
35	37	35	25	10	55.5	52.5	35	12	74	70	45	14	92.5	87.5	60	16
36	38	36	25	10	57.0	54.0	35	12	76	72	45	14	95.0	90.0	60	16
37	39	37	25	10	58.5	55.5	40	12	78	74	50	14	97.5	92.5	60	16
38	40	38	25	10	60.0	57.0	40	12	80	76	50	14	100.0	95.0	60	16
39	41	39	25	10	61.5	58.5	40	12	82	78	50	14	102.5	97.5	60	16
40	42	40	25	10	63.0	60.0	40	12	84	80	50	14	105.0	100.0	70	16
41	43	41	30	10	64.5	61.5	40	12	86	82	55	16	107.5	102.5	70	16
42	44	42	30	10	66.0	63.0	50	12	88	84	55	16	110.0	105.0	70	16
43	45	43	30	10	67.5	64.5	50	12	90	86	55	16	112.5	107.5	70	16
44	46	44	30	10	69.0	66.0	50	12	92	88	60	16	115.0	110.0	70	16
45	47	45	30	10	70.5	67.5	50	12	94	90	60	16	117.5	112.5	70	16
46	48	46	30	10	72.0	69.0	50	14	96	92	60	16	120.0	115.0	70	20
47	49	47	30	10	73.5	70.5	50	14	98	94	70	16	122.5	117.5	80	20
48	50	48	30	10	75.0	72.0	50	14	100	96	70	16	125.0	120.0	80	20
49	51	49	30	10	76.5	73.5	50	14	102	98	70	16	127.5	122.5	80	20
50	52	50	30	12	78.0	75.0	50	14	104	100	70	16	130.0	125.0	80	20
51	53	51	40	12	79.5	76.5	60	14	106	102	70	16	132.5	127.5	80	20
52	54	52	40	12	81.0	78.0	60	14	108	104	70	16	135.0	130.0	90	20
53	55	53	40	12	82.5	79.5	60	14	110	106	70	16	137.5	132.5	90	20
54	56	54	40	12	84.0	81.0	60	14	112	108	70	16	140.0	135.0	90	20
55	57	55	40	12	85.5	82.5	60	14	114	110	70	16	142.5	137.5	90	20
56	58	56	40	12	87.0	84.0	60	16	116	112	70	16	145.0	140.0	100	20
57	59	57	40	12	88.5	85.5	60	16	118	114	70	16	147.5	142.5	100	20
58	60	58	40	12	90.0	87.0	60	16	120	116	70	16	150.0	145.0	100	20
59	61	59	40	12	91.5	88.5	60	16	122	118	70	16	152.5	147.5	100	20
60	62	60	40	12	93.0	90.0	60	16	124	120	70	16	155.0	150.0	100	20
61	63	61	50	12	94.5	91.5	70	16	126	122	80	16				
62	64	62	50	12	96.0	93.0	70	16	128	124	80	16				
63	65	63	50	12	97.5	94.5	70	16	130	126	80	16				
64	66	64	50	12	99.0	96.0	70	16	132	128	80	16				
65	67	65	50	12	100.5	97.5	70	16	134	130	80	16				
66	68	66	50	12	102.0	99.0	70	16	136	132	80	16				
67	69	67	50	12	103.5	100.5	70	16	138	134	80	16				
68	70	68	50	12	105.0	102.0	70	16	140	136	80	16				
69	71	69	50	12	106.5	103.5	70	16	142	138	80	16				
70	72	70	50	12	108.0	105.0	70	16	144	140	80	16	180.0	175.0		20
72	74	72		12	111.0	108.0		16	148	144		16	185.0	180.0		20
75	77	75		12	115.5	112.5		16	154	150		20	192.5	187.5		20
76	78	76		12	117.0	114.0		16	156	152		20	195.0	190.0		20
80	82	80		12	123.0	120.0		16	164	160		20	205.0	200.0		25
85	87	85		12	130.5	127.5		16	174	170		20	217.5	212.5		25
90	92	90		12	138.0	135.0		16	184	180		20	230.0	225.0		25

Standard Spur Gear
Pressure Angle 20°



Total Thickness (A)

Modulo 1 = 25mm.
Modulo 1.5 = 30mm.
Modulo 2 = 35mm.
Modulo 2.5 = 45mm.
Modulo 3 = 50mm.
Modulo 4 = 60mm.
Modulo 5 = 75mm.
Modulo 6 = 80mm.

Tooth Width (B)

Modulo 1 = 15mm.
Modulo 1.5 = 17mm.
Modulo 2 = 20mm.
Modulo 2.5 = 25mm.
Modulo 3 = 30mm.
Modulo 4 = 40mm.
Modulo 5 = 50mm.
Modulo 6 = 60mm.

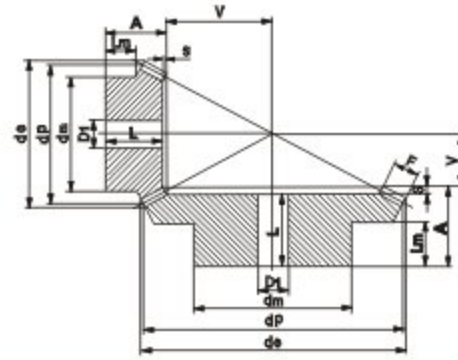


Z	Mod.3				Mod.4				Mod.5				Mod.6			
	de	dp	dm	D1	de	dp	dm	D1	de	dp	dm	D1	de	dp	dm	D1
12	42	36	27	12	56	48	35	14	70	60	45	20	84	72	54	20
13	45	39	30	12	60	52	40	14	75	65	50	20	90	78	60	20
14	48	42	33	12	64	56	45	14	80	70	55	20				
15	51	45	35	12	68	60	45	14	85	75	60	20	102	90	70	20
16	54	48	38	14	72	64	50	16	90	80	65	20	108	96	75	20
17	57	51	42	14	76	68	50	16	95	85	70	20				
18	60	54	45	14	80	72	50	16	100	90	70	20	120	108	80	20
19	63	57	45	14	84	76	60	16	105	95	70	20				
20	66	60	45	14	88	80	60	16	110	100	80	20	132	120	90	20
21	69	63	45	16	92	84	70	16	115	105	80	20				
22	72	66	50	16	96	88	70	16	120	110	80	20				
23	75	69	50	16	100	92	75	20	125	115	90	20				
24	78	72	50	16	104	96	75	20	130	120	90	20	156	144	110	25
25	81	75	60	16	108	100	75	20	135	125	90	20	162	150	110	25
26	84	78	60	16	112	104	75	20	140	130	100	20				
27	87	81	60	16	116	108	75	20	145	135	100	20				
28	90	84	60	16	120	112	75	20	150	140	100	25	180	168	-	25
29	93	87	60	16	124	116	75	20	155	145	110	25				
30	96	90	60	16	128	120	75	20	160	150	110	25	192	180	-	25
31	99	93	60	16	132	124	80	20								
32	102	96	70	16	136	128	80	20	170	160	-	25	204	192	-	25
33	105	99	70	16	140	132	80	20								
34	108	102	70	16	144	136	80	20								
35	111	105	70	16	148	140	80	20	185	175	-	25	222	210	-	25
36	114	108	70	20	152	144	80	25								
37	117	111	70	20												
38	120	114	80	20	160	152	-	25	200	190		25	240	220	-	25
39	123	117	80	20												
40	126	120	80	20	168	160	-	25	210	200		25	252	240	-	25
41	129	138	90	20												
42	132	126	80	20												
43	135	129	80	20												
44	138	132	90	20												
45	141	135	90	20	188	180	-	25	235	225	-	25				
46	144	138	90	20												
47	147	141	100	20												
48	150	144	100	20	200	192	-	25	250	240	-	25				
49	153	147	100	20	204	196	-	25	254	244	-	25				
50	156	150	-	20	208	200	-	25	260	250	-	30				
51	159	153	-	20	212	204	-	25	264	254	-	30				
52	162	156	-	20	216	208	-	25	268	258	-	30				
53	165	159	-	20	220	212	-	25	272	262	-	30				
54	168	162	-	20	224	216	-	25	276	266	-	30				
55	171	165	-	20	228	220	-	25	280	270	-	30				
56	174	168	-	20	232	224	-	25	284	274	-	30				
57	177	171	-	20	236	228	-	25	288	278	-	30				
58	180	174	-	20	240	232	-	25	292	282	-	30				
59	183	177	-	20	244	236	-	25	296	286	-	30				
60	186	180	-	20	248	240	-	25	300	290	-	30				
61	189	183	-	20	252	244	-	25	304	294	-	30				
62	192	186	-	20	256	248	-	25	308	298	-	30				
63	195	189	-	20	260	252	-	25	312	302	-	30				
64	198	192	-	20	264	256	-	25	316	306	-	30				
65	201	195	-	20	268	260	-	25	320	310	-	30				
66	204	198	-	20	272	264	-	25	324	314	-	30				
67	207	201	-	20	276	268	-	25	328	318	-	30				
68	210	204	-	20	280	272	-	25	332	322	-	30				
69	213	207	-	20	284	276	-	25	336	326	-	30				
70	216	210	-	25	288	280	-	25	340	330	-	30				
71	219	213	-	25	292	284	-	25	344	334	-	30				
72	222	216	-	25	296	288	-	25	348	338	-	30				
73	225	219	-	25	300	292	-	25	352	342	-	30				
74	228	222	-	25	304	296	-	25	356	346	-	30				
75	231	225	-	25	308	300	-	25	360	350	-	30				
76	234	228	-	25	312	304	-	30	364	354	-	30				
77	237	231	-	25	316	308	-	30	368	358	-	30				
78	240	234	-	25	320	312	-	30	372	362	-	30				
79	243	237	-	25	324	316	-	30	376	366	-	30				
80	246	240	-	25	328	320	-	30	380	370	-	30				
81	249	243	-	25	332	324	-	30	384	374	-	30				
82	252	246	-	25	336	328	-	30	388	378	-	30				
83	255	249	-	25	340	332	-	30	392	382	-	30				
84	258	252	-	25	344	336	-	30	396	386	-	30				
85	261	255	-	25	348	340	-	30	400	390	-	30				
86	264	258	-	25	352	344	-	30	404	394	-	30				
87	267	261	-	25	356	348	-	30	408	398	-	30				
88	270	264	-	25	360	352	-	30	412	402	-	30				
89	273	267	-	25	364	356	-	30	416	406	-	30				
90	276	270	-	25	368	360	-	30	420	410	-	30				
91	279	273	-	25	372	364	-	30	424	414	-	30				
92	282	276	-	25	376	368	-	30	428	418	-	30				
93	285	279	-	25	380	372	-	30	432	422	-	30				
94	288	282	-	25	384	376	-	30	436	426	-	30				
95	291	285	-	25	388	380	-	30	440	430	-	30				
96	294	288	-	25	392	384	-	30	444	434	-	30				
97	297	291	-	25	396	388	-	30	448	438	-	30				
98	300	294	-	25	400	392	-	30	452	442	-	30				
99	303	297	-	25	404	396	-	30	456	446	-	30				
100	306	300	-	25	408	400	-	30	460	450	-	30				
101	309	303	-	25	412	404	-	30	464	454	-	30				
102	312	306	-	25	416	408	-	30	468	458	-	30				
103	315	309	-	25	420	412	-	30	472	462	-	30				
104	318	312	-	25	424	416	-	30	476	466	-	30				
105	321	315	-	25	428	420	-	30	480	470	-	30				
106	324	318	-	25	432	424	-	30	484	474	-	30				
107	327	321	-	25	436	428	-									



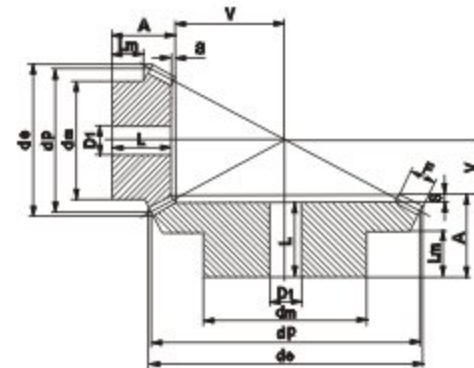
Bevel gear pairs with Usual Axes

Pressure angle 20°



TYPE-A Ratio-1:3

M	Z	d _p	d _a	F	A	d _m	D ₁	L	V	S	L _m
1.5	16	24	26.82	12	24	20	10	23	24.42	1	11.7
	48	72	72.95	12	20	50	12	17	7.27	3	10
2	16	32	35.80	15	28.5	26	12	27	33.26	1.5	12.4
	48	96	97.26	15	23	60	15	19	9.90	4	10
2.5	16	40	44.74	18	32	32	12	30	42.41	1.5	13
	48	120	121.58	18	26	70	20	21	12.60	5	10
3	16	48	53.69	18	32	40	15	30	54.25	2	12.1
	48	144	145.90	18	29	80	20	23	16.20	6	10
3.5	16	56	62.64	22	38	48	15	35.5	62.29	2.5	15
	48	168	170.21	22	31	90	20	24	18.48	7	10
4	16	64	71.59	25	41.5	55	20	38.5	71.23	3	15.2
	48	192	194.53	25	33	100	20	25	21.20	8	10
4.5	16	72	80.53	28	53	60	20	50	80.27	3	23.4
	48	216	218.84	28	49	100	20	40	23.93	9	18
5	16	80	89.48	35	60	60	20	57	85.61	3	22.5
	48	240	243.16	35	50	150	20	40	25.45	10	20



Bevel gear pairs with Usual Axes

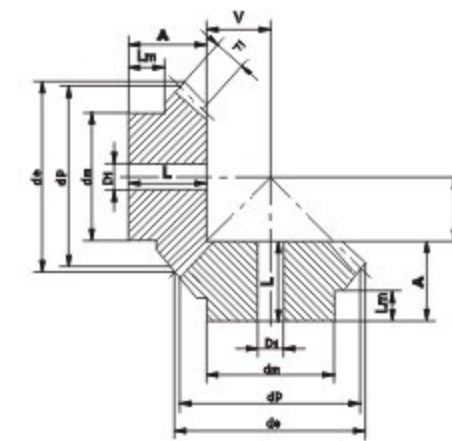
Pressure angle 20°

TYPE-A Ratio-1:4

M	Z	d _p	d _a	F	A	d _m	D ₁	L	V	S	L _m
1.5	16	24	26.91	12	25	18	10	24	36.02	1	12.2
	64	96	96.73	12	22	70	15	19	8.53	3	10
2	16	32	35.88	15	24	25	12	23	49.07	1	8.2
	64	128	128.97	15	24	80	20	20	11.79	4	10
2.5	16	40	44.85	18	30.5	30	12	29	61.99	1.5	11.7
	64	160	161.21	18	29	90	20	24	13.77	5	10
3	16	48	53.82	22	34	40	15	32	74.05	2	11
	64	192	193.45	22	30	100	20	24	16.41	6	10
3.5	16	56	62.80	25	45	48	15	43	87.13	2	19.1
	64	224	225.70	25	50	100	20	43	19.32	7	22
4	16	64	71.76	30	50	50	20	48	98.21	2	18.5
	64	256	257.94	30	50	120	20	42	21.72	8	20
4.5	16	72	80.73	32	53	55	20	50.5	112.08	2.5	19
	64	288	290.18	32	53	130	20	44	24.83	9	23
5	16	80	89.70	35	58	60	20	55.5	125.0	2.5	20.6
	64	320	322.42	35	58	150	20	48	27.65	10	25

Bevel gear pairs with Usual Axes

Pressure angle 20°

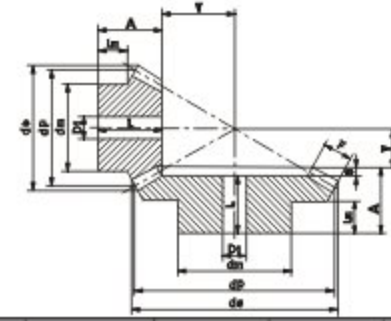


TYPE-B Ratio-1:1

M	Z	d _p	d _a	F	A	d _m	D ₁	V	L _m
1	16	16.0	17.4	4	11.2	13.3	4	4.80	6.5
	19	19.0	20.4	4	11.8	15.3	4	6.20	6.5
	22	22.0	23.4	4.7	12.8	16.3	5	7.20	6.5
	26	26.0	27.4	5.5	13.3	20.3	5	8.70	7
	30	30.0	31.4	6.4	16	20.3	5	10.00	8
1.5	16	24.0	26.1	6	18.9	20.3	8	7.10	12
	19	28.5	30.6	7	21.3	20.3	8	8.70	12
	22	33.0	35.1	7.5	22.5	25.3	8	10.50	12
	26	39.0	41.1	8.5	23.2	28.3	8	12.80	12
	30	45.0	47.1	10	27.2	30.3	12	14.80	12
2	16	32.0	34.8	8	23.5	25.3	8	9.50	14
	19	38.0	40.8	9	24.2	25.3	8	11.80	12
	22	44.0	46.8	10	27.9	30.3	12	14.10	14
	26	52.0	54.8	12	31.4	35.3	12	16.60	14
	30	60.0	62.8	13	34.1	40.3	14	19.90	17
2.5	16	40.0	43.5	10	28.1	30.3	12	11.90	15
	19	47.5	51.0	11	27.1	35.3	12	14.90	13
	22	55.0	58.5	12	30.1	45.3	16	17.90	16
	26	65.0	68.5	15	33.2	45.3	16	20.80	16
	30	75.0	78.5	16	39	50.3	16	25.00	20
3	16	48.0	52.5	12	31.7	40.3	12	14.30	18
	19	57.0	61.2	13	36	40.3	14	18.00	17
	22	66.0	70.2	15	36.9	50.3	16	21.10	17
	26	78.0	82.2	17	38.4	50.3	16	25.60	18
	30	90.0	94.2	19	43.8	60.3	20	30.20	22
3.5	16	56.0	60.9	14	36.4	45.3	16	16.60	20
	19	66.5	71.5	15	37.8	50.3	18	21.00	19
	22	77.0	81.9	17	39.1	55.3	20	24.90	18
	26	91.0	96.0	20	43.35	62.3	20	29.70	20
	30	105.0	110.0	23	47.1	70.3	20	34.90	22
4	16	64.0	69.7	15	44.3	50.3	16	19.70	25
	19	76.0	81.7	18	44.4	55.3	20	23.60	22
	22	88.0	93.7	20	45.9	60.3	20	28.10	22
	26	104.0	109.7	25	48	70.3	20	34.00	22
	30	120.0	125.7	26	54.2	80.3	20	39.80	25
4.5	16	72.0	78.4	17.5	46.3	55.3	20	21.70	25
	19	85.5	91.8	20	49	62.3	20	26.57	25
	22	99.0	105.3	22	50.1	70.3	20	31.90	25
	26	117.0	123.0	25	54.7	75.3	20	38.60	26
	30	135.0	141.4	29	60	80.3	20	45.00	28
5	16	80.0	87.1	18	48.9	60.3	20	25.10	25
	19	95.0	102.1	22	52.2	60.3	20	29.80	25
	22	110.0	117.1	24	58.2	80.3	20	35.80	30
	26	130.0	137.1	29	62.7	80.3	20	42.30	30
	30	150.0	157.1	32	68.9	80.3	20	50.10	35

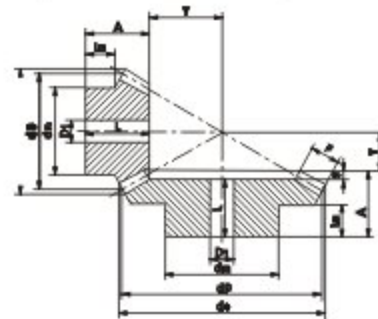


Bevel gear pairs with Usual Axes Pressure angle 20°



TYPE-B Ratio-1:1.5

M	Z	φ	d _a	F	A	d _m	D ₁	L	V	S	L _m
1	16 24	16 24	18.1 24.8	4.3 4.3	12 14.8	13.3 20.3	4 5	13.3	8 5.2	1.5	7 9.3
1.5	16 24	24 36	27.1 37.2	8 8	20.3 24.9	20.3 28.3	8 8	22.7	10.7 7.1	2.2	11.8 16
2	16 24	32 48	36.2 49.7	10 10	25.2 27.2	25.3 32.3	8 8	24.7	14.8 9.8	2.5	13.8 16
2.5	16 24	40 60	45.2 62.1	13 13	30.8 34	32.3 45.3	12 14	30.8	18.2 12	3.2	16.4 20
3	16 24	48 72	54.3 74.5	14.5 14.5	32.4 38.2	40.3 55.3	12 16	32	22.6 14.8	4.2	16.4 20
3.5	16 24	56 84	63.3 86.9	18 18	40.4 44.2	45.3 55.3	16 20	40	25.6 16.8	4.2	20.4 25
4	16 24	64 96	72.4 99.3	18 18	46.8 45.5	50.3 60.3	16 20	40	31.2 20.5	5.5	25.4 25
4.5	16 24	72 108	81.4 111.7	20 20	47.6 57.8	60.3 80.3	20 20	51.3	35.4 23.2	6.5	25.1 35
5	16 24	80 120	90.5 124.1	24 24	54.1 61.1	60.3 80.3	20 20	54.5	37.9 24.9	6.6	25.4 35



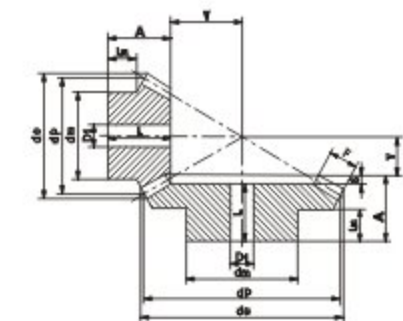
Bevel gear pairs with Usual Axes Pressure angle 20°

TYPE-B Ratio-1:2

M	Z	φ	d _a	F	A	d _m	D ₁	L	V	S	L _m
1	15 30	15.0 30.0	17.4 30.6	5 5	11.9 15.1	13.3 20.3	4 5	13.7	10.1 4.9	1.4	6.5 9
1.5	15 30	22.5 45.0	26.1 45.9	9 9	21.1 25.2	19.3 32.3	8 8	23	13.9 6.8	2.2	11.9 16
2	15 30	30.0 60.0	34.8 61.2	11.5 11.5	26 29.8	25.3 40.3	8 14	26.8	19.0 9.2	3	14.1 18
2.5	15 30	37.5 75.0	43.5 76.5	15 15	31.8 33.7	32.3 45.3	12 16	30	23.2 11.3	3.7	16.2 20
3	15 30	45.0 90.0	52.2 91.8	17 17	37.3 42.1	40.3 55.3	12 16	38	28.7 13.9	4.1	19.9 25
3.5	15 30	52.5 105.0	60.9 107.1	20.5 20.5	46.1 45	45.3 60.3	16 20	40	32.9 16.0	5	24.7 25
4	15 30	60.0 120.0	69.6 122.3	22.5 22.5	48.6 57.3	50.3 80.3	20 20	51.9	38.4 18.7	5.4	24.6 35
4.5	15 30	67.5 135.0	78.3 137.6	26 26	51.4 60.3	60.3 80.3	20 20	54.3	42.6 20.7	6	24.7 35
5	15 30	75.0 150.0	87 152.9	30 30	57.6 62.5	60.3 80.3	20 20	56	46.4 22.5	6.5	25.3 35

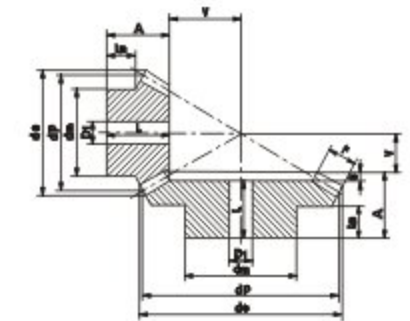


Bevel gear pairs with Usual Axes Pressure angle 20°



TYPE-B Ratio-1:2.5

M	Z	φ	d _a	F	A	d _m	D ₁	L	V	S	L _m
1	16 40	16 40	18.6 40.4	6.5 6.5	14.4 14.8	13.3 25.3	4 8	13	13.6 5.2	1.8	7.4 9
1.5	16 40	24 60	27.9 60.7	11.5 11.5	24.2 27.8	20.3 40.3	8 14	25.5	18.8 7.2	2.3	12.3 18
2	16 40	32 80	37.2 80.9	15 15	29.6 32.4	25.3 45.3	8 16	29	25.4 9.6	3.4	13.7 20
2.5	16 40	40 100	46.4 101.1	19 19	38.4 39.8	32.3 55.3	12 16	35.9	31.6 12.2	3.9	16.5 25
3	16 40	48 120	55.7 121.4	21.5 21.5	41.9 47.9	40.3 60.3	16 20	44	39.1 15.1	3.9	19.6 30
3.5	16 40	56 140	65.0 141.8	22.6 22.6	49.1 54.6	45.3 80.3	20 20	50	47.9 18.4	4.6	25 35
4	16 40	64 170	74.3 161.8	26 26	52.5 57.0	55.3 80.3	20 20	50.5	54.5 21.0	6.5	25.3 35
4.5	16 40	72 180	83.6 182.1	30 30	58.3 59.7	60.3 80.3	20 20	53	60.7 23.3	6.7	24.6 35
5	16 40	80 200	92.9 202.3	32 32	65.4 65.7	60.3 90.3	20 20	58.3	68.6 26.3	7.4	30.1 40



Bevel gear pairs with Usual Axes Pressure angle 20°

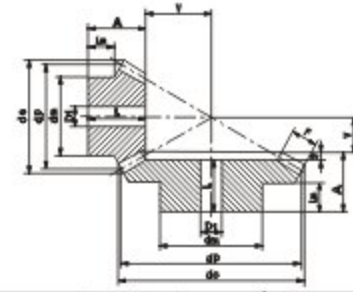
TYPE-B Ratio-1:3

M	Z	φ	d _a	F	A	d _m	D ₁	L	V	S	L _m
1	15 45	15 45	17.7 45.3	7.1 7.1	16.6 17.1	13.3 25.3	4 8	15.2	15.4 4.9	1.9	9.2 10
1.5	15 45	22.5 67.5	26.5 68.1	10.5 10.5	22.6 29.6	19.3 45.3	8 14	27.2	23.4 7.4	2.4	11.7 20
2	15 45	30 90	35.4 90.8	14 14	28.9 32.1	25.3 45.3	8 16	28.4	31.1 9.9	3.7	14.2 20
2.5	15 45	37.5 112.5	44.2 113.4	18 18	34.8 39.7	32.3 60.3	12 20	35.3	38.4 12.3	4.4	15.9 25
3	15 45	45 135	53.0 136.1	21 21	41.3 47.2	40.3 60.3	16 20	42	46.7 14.8	5.2	19.7 30
3.5	15 45	52.5 157.5	61.9 158.8	23.5 23.5	49.6 54.4	45.3 80.3	20 20	48.6	55.4 17.6	5.8	25 35
4	15 45	60 180	70.7 181.5	27.5 27.5	54.3 57	50.3 80.3	20 20	50.5	62.7 20	6.5	25.4 35
4.5	15 45	67.5 202.5	79.5 204.2	28.5 28.5	55.2 63.9	55.3 90.3	20 20	57	72.8 23.1	6.9	24.8 40
5	15 45	75 225	88.4 226.9	33 33	65.3 66.7	60.3 90.3	20 20	59.2	79.7 25.3	7.5	30 40



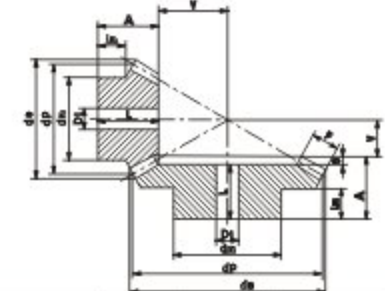
Bevel gear pairs with Usual Axes

Pressure angle 20°



TYPE-B Ratio-1 : 3.5

M	Z	d _p	d _a	F	A	d _m	D ₁	L	V	S	L _m
1	16 56	16 56	18.7 56.3	8.7 8.7	16.6 16.7	13.3 30.3	4 8	14.2	19.4 5.3	2.5	7.6 10
1.5	16 56	24 84	28.1 84.5	12 12	24 34.8	20.3 45.3	8 14	32	30 8.2	2.8	11.5 25
2	16 56	32 112	37.5 112.6	16 16	30.9 37.1	25.3 55.3	8 16	33.3	40.1 10.9	3.8	14.1 25
2.5	16 56	40 140	46.8 140.8	20 20	38.9 44.4	32.3 80.3	14 20	40	50.1 13.6	4.4	17.9 30
3	16 56	48 168	56.2 169	24 24	49.9 52.7	40.3 80.3	16 20	47.5	60.1 16.3	5.2	24.9 35
3.5	16 56	56 196	65.6 197.1	25 25	52 55.1	25.5 80.3	20 20	49.1	73 19.9	6	25.5 35



Bevel gear pairs with Usual Axes

Pressure angle 20°

TYPE-B Ratio-1 : 4

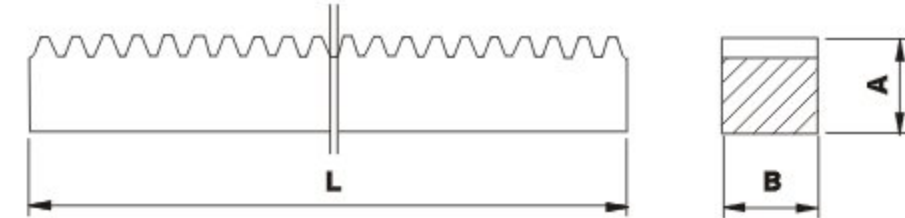
M	Z	d _p	d _a	F	A	d _m	D ₁	L	V	S	L _m
1	15 60	15.0 60	17.80 60.30	9.3 9.3	17.2 17.1	13.3 30.3	4 8	15.2	20.8 4.9	1.9	7.7 10
1.5	15 60	22.5 90	26.70 90.40	11 11	23 34	20.3 50.3	8 16	31.2	34.0 8.0	2.8	11.7 25
2	15 60	30 120	35.60 120.60	16 16	31 37.6	25.3 60.3	8 16	34.2	44.0 10.4	3.4	14.4 25
2.5	15 60	37.5 150	44.50 150.70	19 19	38.1 44.8	32.3 80.3	14 20	40	55.9 13.2	4.8	18.4 30
3	15 60	45 180.0	53.30 180.80	23 23	48.1 53.2	40.3 80.3	16 20	48.2	66.9 15.8	5	24.5 35
3.5	15 60	52.5 210	62.20 211.00	26 26	52.1 60.4	45.3 90.3	20 20	54.4	78.9 18.6	6	25.1 40
4	15 60	60 240	71.10 241.10	30 30	55.1 60.8	50.3 90.3	20 20	53	89.9 21.2	7.8	23 40
4.5	15 60	67.5 270	79.97 271.24	32 32	57 62	52.3 90.3	20 20	53.5	102.9 24.3	8.5	23 40
5	15 60	75 300.0	88.80 301.30	34 34	62 65	55.3 90.3	20 20	55	115.7 27.0	10	25 40



Special Note

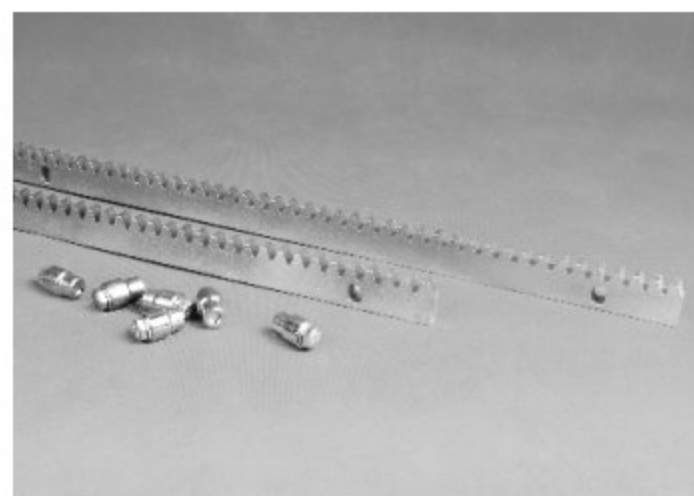
The racks are according to the characters of high precision:

- With the whole length of 2000mm, unstraight degree can not exceed within 0.20mm, no matter the measurement is taken at any place of the rack.
- Unverticality of each vertical plane of the rack is less than 0.20mm.
- Smooth finished of each side is 0.8 and over.
- Error added up to circumferential pitch of any teeth is less than 0.20mm.

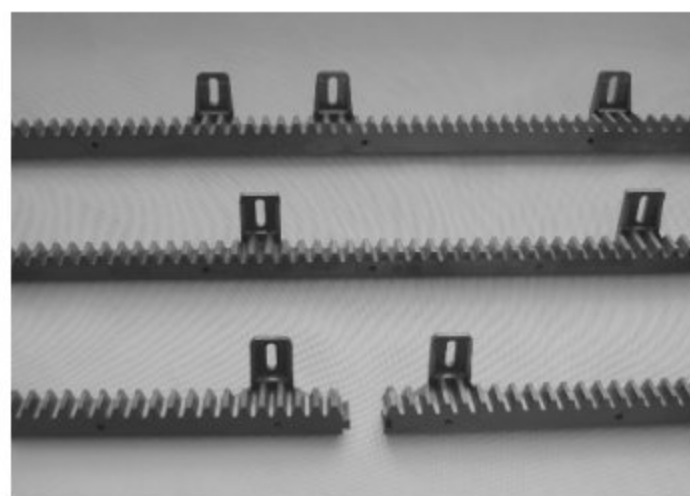


a=20°

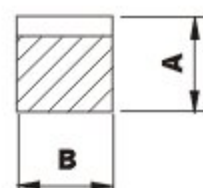
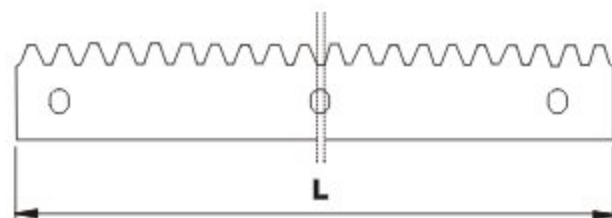
Mod	L=250	L=500	L=1000	L=2000
	AXB	AXB	AXB	AXB
1	15X15	15X15	15X15	15X15
1.5	17X17	17X17	17X17	17X17
2	20X20	20X20	20X20	20X20
2.5	25X25	25X25	25X25	25X25
3	30X30	30X30	30X30	30X30
4	-	-	22X22	22X22
4	-	-	25X25	25X25
4	-	30X30	30X30	30X30
4	40X40	40X40	40X40	40X40
5	50X50	50X50	50X50	50X50
6	-	60X60	60X60	60X60
8	-	-	80X80	80X80



AUTO GATE RACK



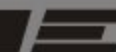
NYLON RACK



Mod	Size	A	B	Long
M4	8x30x1000	8	30	1000
M4	9x30x1000	9	30	1000
M4	10x30x1000	10	30	1000
M4	11x30x1000	11	30	1000
M4	12x30x1000	12	30	1000
M4	12x30x2000	12	30	2000
M4	22x22x1000	22	22	1000
M4	22x22x2000	22	22	2000
M6	30x30x1000	30	30	1000

NYLON RACK

Mod	Size	A	B	Long	Hole
4	20x28x1000	20	28	1000	4
4	20x28x1000	20	28	1000	6
4	20x28x1000	20	28	1000	2



Couplings

