FEKERMAN®

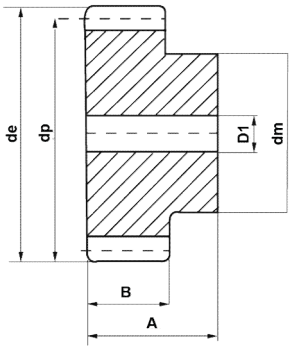
Spur Gears

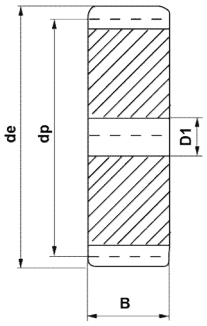


Spur Gears

FEKERMAN®

Z	Mod.2				Mod.2.5				Mod.3			
	de	dp	dm	D1	de	dp	dm	D1	de	dp	dm	D1
12	28	24	18	10	35.0	30.0	22	10	42	36	27	12
13	30	26	20	10	37.5	32.5	25	10	45	39	30	12
14	32	28	22	10	40.0	35.0	28	10	48	42	33	12
15	34	30	24	10	42.5	37.5	30	10	51	45	35	12
16	36	32	25	10	45.0	40.0	32	12	54	48	38	14
17	38	34	25	10	47.5	42.5	35	12	57	51	42	14
18	40	36	25	10	50.0	45.0	35	12	60	54	45	14
19	42	38	25	10	52.5	47.5	35	12	63	57	45	14
20	44	40	30	10	55.0	50.0	40	12	66	60	45	14
21	46	42	30	12	57.5	52.5	40	14	69	63	45	16
22	48	44	30	12	60.0	55.0	45	14	72	66	50	16
23	50	46	30	12	62.5	57.5	45	14	75	69	50	16
24	52	48	35	12	65.0	60.0	45	14	78	72	50	16
25	54	50	35	12	67.5	62.5	50	14	81	75	60	16
26	56	52	40	12	70.5	65.0	50	14	84	78	60	16
27	58	54	40	12	72.5	67.5	50	14	87	81	60	16
28	60	56	40	12	75.0	70.0	50	14	90	84	60	16
29	62	58	40	14	77.5	72.5	50	14	93	87	60	16
30	64	60	40	14	80.0	75.0	55	14	96	90	60	16
31	66	62	45	14	82.5	77.5	55	16	99	93	60	16
32	68	64	45	14	85.0	80.0	55	16	102	96	70	16
33	70	66	45	14	87.5	82.5	55	16	105	99	70	16
34	72	68	45	14	90.0	85.0	55	16	108	102	70	16
35	74	70	45	14	92.5	87.5	60	16	111	105	70	16
36	76	72	45	14	95.0	90.0	60	16	114	108	70	20
37	78	74	50	14	97.5	92.5	60	16	117	111	70	20
38	80	76	50	14	100.0	95.0	60	16	120	114	80	20
39	82	78	50	14	102.5	97.5	60	16	123	117	80	20
40	84	80	50	14	105.0	100.0	70	16	126	120	80	20
41	86	82	55	16	107.5	102.5	70	16	129	123	80	20
42	88	84	55	16	110.0	105.0	70	16	132	126	80	20
43	90	86	55	16	112.5	107.5	70	16	135	129	80	20
44	92	88	60	16	115.0	110.0	70	16	138	132	90	20
45	94	90	60	16	117.5	112.5	70	16	141	135	90	20
46	96	92	60	16	120.0	115.0	70	16	144	138	90	20
47	98	94	70	16	122.5	117.5	80	20	147	141	100	20
48	100	96	70	16	125.0	120.0	80	20	150	144	100	20
49	102	98	70	16	127.5	122.5	80	20				
50	104	100	70	16	130.0	125.0	80	20	156	150	—	20
51	106	102	70	16	132.5	127.5	80	20				
52	108	104	70	16	135.0	130.0	90	20	162	156	—	20
53	110	106	70	16	137.5	132.5	90	20				
54	112	108	70	16	140.0	135.0	90	20				
55	114	110	70	16	142.5	137.5	90	20	171	165	—	20
56	116	112	70	16	145.0	140.0	100	20				
57	118	114	70	16	147.5	142.5	100	20	177	171	—	20
58	120	116	70	16	150.0	145.0	100	20				
59	122	118	70	16	152.5	147.5	100	20				
60	124	120	70	16	155.0	150.0	100	20	186	180	—	20
61	126	122	80	16								
62	128	124	80	16								
63	130	126	80	16								
64	132	128	80	16								
65	134	130	80	16	167.5		—	20	201	195	—	20
66	136	132	80	16								
67	138	134	80	16								
68	140	136	80	16								
69	142	138	80	16								
70	144	140	80	16	180.0	175.0	—	20	216	210	—	25
72	148	144	—	16	185.0	180.0	—	20	222	216	—	25
75	154	150	—	20	192.5	187.5	—	20	231	225	—	25
76	156	152	—	20	195.0	190.0	—	20	234	228	—	25
80	164	160	—	20	205.0	200.0	—	25	246	240	—	25
85	174	170	—	20	217.5	212.5	—	25	261	255	—	25
90	184	180	—	20	230.0	225.0	—	25	276	270	—	25
95	194	190	—	20	242.5	237.5	—	25	291	285	—	25
100	204	200	—	20	255.0	250.0	—	25	306	300	—	25
110	224	220	—	20	280.0	275.0	—	25	336	320	—	25
114	232	228	—	20	290.0	285.0	—	25	348	342	—	30
120	244	240	—	20	305.0	300.0	—	25	366	360	—	30





Tooth width " B "

Module 2 =20 mm
Module 2.5 =25 mm
Module 3 =30 mm
Module 4 =40 mm
Module 5 =50 mm
Module 6 =60 mm

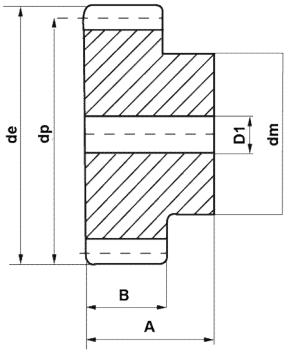
Tooth width " A "

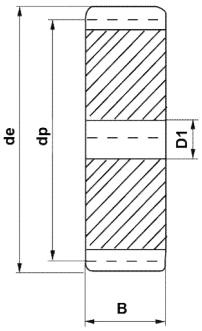
Module 2 =35 mm
Module 2.5 =45 mm
Module 3 =50 mm
Module 4 =60 mm
Module 5 =75 mm
Module 6 =80 mm

Spur Gears

FEKERMAN®

Z	Mod.4				Mod.5				Mod.6			
	de	dp	dm	D1	de	dp	dm	D1	de	dp	dm	D1
12	56	48	35	14	70	60	45	20	84	72	54	20
13	60	52	40	14	75	65	50	20	90	78	60	20
14	64	56	45	14	80	70	55	20				
15	68	60	45	14	85	75	60	20	102	90	70	20
16	72	64	50	16	90	80	65	20	108	95	75	20
17	76	68	50	16	95	85	70	20				
18	80	72	50	16	100	90	70	20	120	108	80	20
19	84	76	60	16	105	95	70	20				
20	88	80	60	16	110	100	80	20	132	120	90	20
21	92	84	70	16	115	105	80	20				
22	96	88	70	16	120	110	80	20				
23	100	92	75	20	125	115	90	20				
24	104	96	75	20	130	120	90	20	156	144	110	25
25	108	100	75	20	135	125	90	20	162	150	110	25
26	112	104	75	20	140	130	100	20				
27	116	108	75	20	145	135	100	20				
28	120	112	75	20	150	140	100	25	180	168	—	25
29	124	116	75	20	155	145	110	25				
30	128	120	75	20	165	150	110	25	192	180	—	25
31	132	124	80	20								
32	136	128	80	20	170	160	—	25	204	192	—	25
33	140	132	80	20								
34	144	136	80	20								
35	148	140	80	20	185	175	—	25	222	210	—	25
36	152	144	80	25								
38	160	152	—	25	200	190	—	25	240	220	—	25
40	168	160	—	25	210	200	—	25				
45	188	180	—	25	235	225	—	25	252	240	—	25
48	200	192	—	25	250	240	—	25				
50	208	200	—	25	260	250	—	30				
52	216	208	—	25	270	260	—	30				
55	228	220	—	25	285	275	—	30				
57	236	228	—	25	295	285	—	30				
60	248	240	—	25	310	300	—	30				
65	268	260	—	25	335	325	—	30				
70	288	280	—	25	360	350	—	30				
75	308	300	—	25	385	375	—	30				
76	312	304	—	30	390	380	—	30				
80	328	320	—	30	410	400	—	30				
85	348	340	—	30	435	425	—	30				
90	368	360	—	30	460	450	—	30				
95	388	380	—	30	485	475	—	30				
100	408	400	—	30	510	500	—	30				
110	448	440	—	30	560	550	—	30				
114	464	456	—	30	580	570	—	30				





Tooth width " B "

Module 2 =20 mm
Module 2.5 =25 mm
Module 3 =30 mm
Module 4 =40 mm
Module 5 =50 mm
Module 6 =60 mm

Tooth width " A "

Module 2 =35 mm
Module 2.5 =45 mm
Module 3 =50 mm
Module 4 =60 mm
Module 5 =75 mm
Module 6 =80 mm

Material selection：Steel C45, 42CrMo, 20CrMnTi.
Surface treatment selection: Hardening teeth, Oil, Black oxide, Carburizing.
For large module gears, or custom made gears, pls contact Fekerman directly.

FEKERMAN®

Bevel Gears



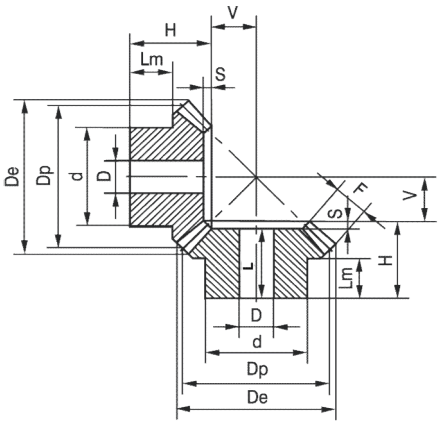
Bevel Gears

FEKERMAN®

Mod.	Z	De	Dp	H	F	d	D	V+H	L	Lm
2	16	34.8	32.0	20	9	25	10	28.8	17	9.3
	20	42.8	40.0	25	12	32	10	35.7	22	12
	22	46.8	44.0	25	12	36	10	37.7	22	17.7
	25	52.8	50.0	28	14	40	12	42.3	25	12.3
	30	62.8	60.0	30	16	50	12	47.8	27	12.8
2.5	16	43.5	40.0	25.5	10	32	12	37.3	22	13.3
	20	53.5	50.0	30.5	12	40	12	45.9	27	16
	22	58.5	55.0	30.5	12	45	12	48.3	27	15.9
	25	66	62.5	33.5	15	50	15	53.0	30	16
	30	78.5	75.0	35.5	18	55	15	59.1	32	16
3	16	52.2	48.0	30	12	40	15	44.2	26	16.2
	20	64.2	60.0	35	18	45	15	51.1	31	13.6
	22	70.2	66.0	35	18	50	15	54.0	31	13
	25	79.2	75.0	38	20	55	15	60.1	34	16
	30	94.4	90.0	40	22	60	20	68.1	36	19
3.5	16	60.9	56.0	35.5	16	45	15	50.8	31	17.2
	20	74.9	70.0	40.5	22	55	15	58.6	36	19
	22	81.9	77.0	40.5	22	60	15	62.0	36	18
	25	92.4	87.5	43.5	26	65	20	67.5	39	18
	30	109.9	105.0	45.5	30	70	20	75.4	41	17
4	16	69.6	64.0	38	18	50	15	55.6	33	16.6
	20	85.6	80.0	43	25	60	18	63.8	38	18
	22	93.6	88.0	43	25	65	18	67.7	38	18
	25	105.6	100.0	45	28	70	20	73.5	40	18
	30	125.6	120.0	48	32	80	25	83.7	43	16
4.5	16	78.3	72.0	43	20	55	18	63.0	37	18.5
	20	96.3	90.0	48	28	65	20	71.5	42	18
	22	105.3	99.0	48	28	70	20	75.8	42	18
	25	118.8	112.5	50	32	75	20	81.8	44	18
	30	141.3	135.0	53	35	90	25	93.8	47	17
5	16	87	80.0	45.5	22	60	20	67.8	39	17.8
	20	107.1	100.0	50.5	30	70	20	77.3	44	18.5
	22	117.1	110.0	50.5	30	80	20	82.2	44	18.5
	25	132.1	125.0	54.5	35	90	20	90.2	48	18.5
	30	157.1	150.0	56.5	38	110	30	102.4	50	18

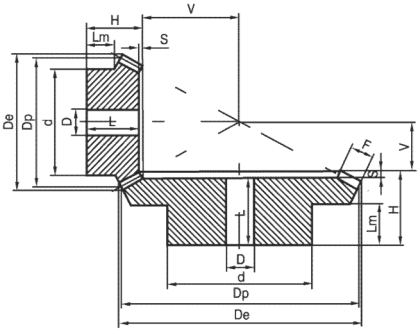
Type A
Pressure angle 20°
Ratio 1:1





Mod.	Z	De	Dp	H	F	d	D	V+H	L	Lm
2	16	35.6	32	23	10	27	10	45.4	21	12.2
	32	65.8	64	25	10	40	12	35.2	22	10
2.5	16	44.4	40	27.5	12	34	12	56	25	14.4
	32	82.2	80	30	12	50	15	43	26.5	15
3	16	53.4	48	28	15	40	15	61.6	25	11.6
	32	98.7	96	35	15	60	15	50.4	30.5	15
3.5	16	62.3	56	33.5	18	48	15	72.3	30.5	14.4
	32	115.1	112	40	18	70	20	57.7	35	19
4	16	71.1	64	36	20	50	20	80.8	32	13.4
	32	131.6	128	45	20	80	20	65.5	39.5	23
4.5	16	80.1	72	39.5	22	60	20	90.4	35	15.4
	32	148	144	50	22	80	25	73.2	43.5	24
5	16	88.9	80	50	25	60	20	106.1	45	21.1
	32	164.5	160	55	25	85	25	80.6	48	27

Type A
Pressure angle 20°
Ratio 1:2



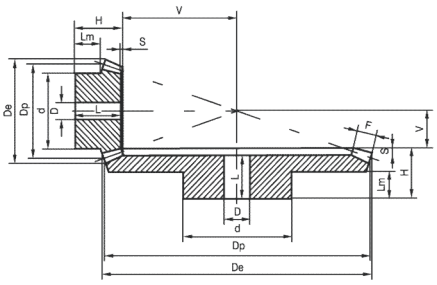
Accept custom made gears.

Bevel Gears

FEKERMAN®

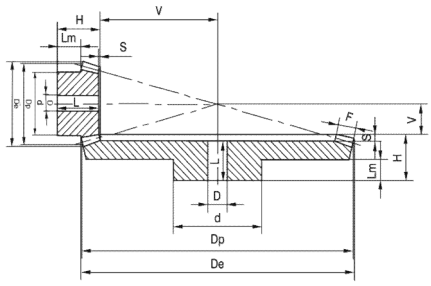
Mod.	Z	De	Dp	H	F	d	D	V+H	L	Lm
2	16 48	35.8 97.3	32 96	26.5 26	15 15	25 30	12 15	58.9 35.9	24 22	9.4 13
2.5	16 48	44.7 121.6	40 120	28 32	18 18	33 60	14 20	70.4 44.6	26 27	9.2 16
3	16 48	53.7 145.9	48 144	30 38	18 18	42 65	15 20	84.2 54.1	28 32	11.2 19
3.5	16 48	62.6 170.2	56 168	36.5 44	22 22	48 75	15 20	98.8 62.5	34 37	13.4 23
4	16 48	71.6 194.5	64 192	42 50	25 25	55 85	20 22	113.5 71.2	39 42	15.7 27
4.5	16 48	80.6 218.8	72 216	53 58	28 28	60 90	20 25	133.4 81.9	50 49	23.4 27
5	16 48	89.5 243.1	80 240	60 65	35 35	60 100	20 28	145.7 90.5	57 55	22.5 35

Type A
Pressure angle 20°
Ratio 1:3



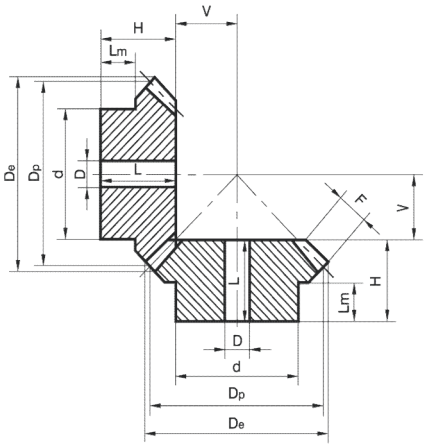
Mod.	Z	De	Dp	H	F	d	D	V+H	L	Lm
2	16 64	35.9 129	32 128	24 28	15 15	25 70	12 20	71.3 38.9	23 24	8.5 14
2.5	16 64	44.9 161.2	40 160	30.5 35	18 18	34 80	15 20	92.6 48.8	29 30	11.7 16
3	16 64	53.8 193.5	48 192	32 42	20 20	40 90	15 20	108 58.8	30 36	11.1 22
3.5	16 64	62.8 225.7	56 224	40 50	25 25	45 100	15 25	127.1 69.3	38 43	14 22
4	16 64	71.7 257.9	64 256	50 60	30 30	50 110	20 28	148.2 81.8	48 52	18.5 30
4.5	16 64	80.7 290.1	72 288	55 65	32 32	60 120	20 30	167.1 89.8	53 57	21.6 35
5	16 64	89.7 322.4	80 320	60 70	35 35	65 120	20 30	185.1 97.7	58 61	23.2 42

Type A
Pressure angle 20°
Ratio 1:4



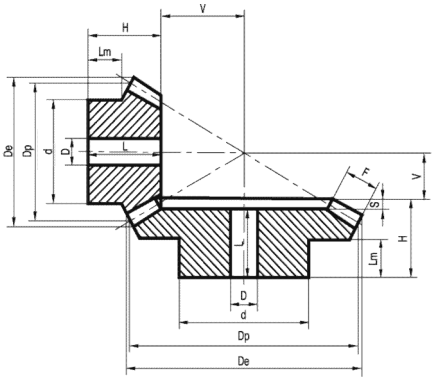
Material selection：Steel C45, 42CrMo, 20CrMnTi.
Surface treatment selection: Hardening teeth, Oil, Black oxide, Carburizing.
For large module gears, or not 45°gears, pls contact Fekerman directly.
Accept custom made gears.

Type B
Pressure angle 20°
Ratio 1:1



Mod.	Z	De	Dp	H	F	d	D	V+H	L	Lm
2	16	34.8	32.0	23.5	8	25.3	8	33	—	13.6
	19	40.8	38.0	24.2	9	25.3	8	36	—	12
	22	46.8	44.0	27.9	10	30.3	10	42	—	14
	26	54.8	52.0	31.4	12	35.3	12	48	—	13.7
	30	62.8	60.0	34.1	13	40.3	12	54	—	17
2.5	16	43.5	40.0	28.1	10	30.3	12	40	—	15.2
	19	51	47.5	27.1	11	35.3	12	42	—	13
	22	58.5	55.0	30.1	12	45.3	12	48	—	15.7
	26	68.5	65.0	33.2	15	45.3	15	54	—	16
	30	78.5	75.0	39.0	16	50.3	15	64	—	20
3	16	52.2	48.0	31.7	12	40.3	12	46	—	18.1
	19	61.2	57.0	36.0	13	40.3	14	54	—	17.1
	22	70.2	66.0	36.9	15	50.3	15	58	—	17.1
	26	82.2	78.0	38.4	17	50.3	15	64	—	18
	30	94.2	90.0	43.8	19	60.3	20	74	—	22
3.5	16	60.9	56.0	36.4	14	45.3	15	53	—	19.8
	19	71.4	66.5	36.9	15	50.3	15	58	—	18
	22	81.9	77.0	39.1	17	55.3	15	64	—	18
	26	95.9	91.0	42.2	20	60.3	20	72	—	20
	30	110	105.0	47.3	23	70.3	20	82	43	22
4	16	69.7	64.0	44.3	15	50.3	15	64	—	25.1
	19	81.7	76.0	44.4	18	55.3	18	68	—	22
	22	93.7	88.0	45.9	20	60.3	18	74	—	22
	26	109.7	104.0	48.0	23	70.3	20	82	43	22
	30	125.7	120.0	54.2	26	80.3	25	94	49	25
4.5	16	78.4	72.0	46.3	17.5	55.3	18	68	—	25
	19	91.8	85.5	47.3	20	60.3	20	74	—	25
	22	105.3	99.0	50.1	22	70.3	20	82	—	25
	26	123.3	117.0	53.2	25	75.3	20	92	45	25
	30	141.4	135.0	60.0	29	80.3	25	105	54	28
5	16	87.1	80.0	48.9	18	60.3	20	74	—	25
	19	102.1	95.0	52.2	22	60.3	20	82	—	25
	22	117.1	110.0	58.2	24	80.3	20	94	52	30
	26	137.1	130.0	62.7	29	80.3	20	105	57	30
	30	157.1	150.0	68.9	32	80.3	30	119	63	35

Type B
Pressure angle 20°
Ratio 1:2

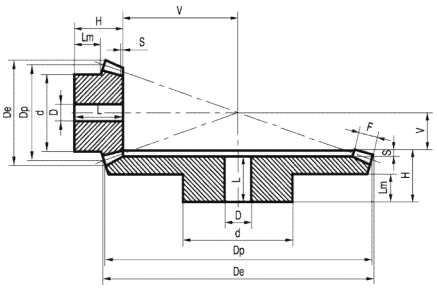


Mod.	Z	De	Dp	H	F	d	D	V+H	L	Lm
2	15	34.8	30.0	26.0	11.5	25.3	8	45	—	13.8
	30	61.2	60.0	29.8	11.5	40.3	12	39	27	18
2.5	15	43.5	37.5	31.8	15	32.3	12	55	—	16.2
	30	76.5	75.0	33.7	15	45.3	15	45	30	20
3	15	52.2	45.0	37.3	17	40.3	12	66	—	19.8
	30	91.8	90.0	42.1	17	55.3	15	56	38	25
3.5	15	60.9	52.5	46.1	20.5	45.3	15	79	—	24.7
	30	107.1	105.0	45.0	20.5	60.3	20	61	40	25
4	15	69.6	60.0	48.6	22.5	50.3	20	87	—	24.6
	30	122.3	120.0	57.3	22.5	80.3	20	76	52	25
4.5	15	78.3	67.5	51.4	26	60.3	20	94	—	24.7
	30	137.6	135.0	60.3	26	80.3	25	81	53	35
5	15	87.0	75.0	57.6	30	60.3	20	104	—	25.3
	30	152.9	150.0	62.5	30	80.3	25	85	56	35

Accept custom made gears.

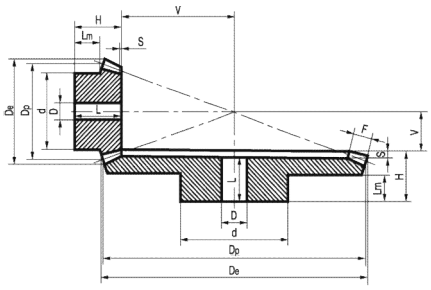
Mod.	Z	De	Dp	H	F	d	D	V+H	L	Lm
2	15 45	35.4 90.8	30 90	28.9 32.1	14 14	25.3 45.3	8 15	60 42	— 29	14.2 20
2.5	15 45	44.2 113.4	37.5 112.5	34.6 39.7	18 18	32.3 60.3	12 20	73 52	— 36	15.9 25
3	15 45	53 136.1	45 135	41.3 47.2	21 21	40.3 60.3	15 20	88 62	— 42.5	19.7 30
3.5	15 45	61.9 158.8	52.5 157.5	49.6 54.4	23.5 23.5	45.3 80.3	15 20	105 72	— 49	25.1 35
4	15 45	70.7 181.5	60 180	54.3 57	27.5 27.5	50.3 80.3	20 22	117 77	— 51	25.4 35
4.5	15 45	79.5 204.2	67.5 202.5	55.2 63.9	28.5 28.5	55.3 90.3	20 25	128 87	— 57	24.8 40
5	15 45	88.4 226.9	75 225	65.3 66.7	33 33	60.3 90.3	20 28	145 92	— 59	30 40

Type B
Pressure angle 20°
Ratio 1:3



Mod.	Z	De	Dp	H	F	d	D	V+H	L	Lm
2	15 60	35.6 120.6	30 120	31 37.6	16 16	25.3 60.3	8 16	75 48	— 34	14.4 25
2.5	15 60	44.5 150.7	37.5 150	38.1 44.8	19 19	32.3 60.3	14 20	94 58	— 40	18.4 30
3	15 60	53.3 180.8	45 180	48.1 53.2	23 23	40.3 80.3	15 20	115 69	— 48	24.5 35
3.5	15 60	62.2 211	52.5 210	52.1 60.4	26 26	45.3 90.3	15 25	131 79	— 54	25.1 40
4	15 60	71.1 241.1	60 240	55.1 60.8	30 30	50.3 90.3	20 28	145 82	— 53	23.8 40
4.5	15 60	79.9 271.2	67.5 270	59.1 68.2	34 34	60.3 100.3	20 30	160 92	— 61	24.1 40
5	15 60	88.8 301.3	75 300	68.1 73.5	38 38	70.3 110.3	20 30	180 100	— 66	29.4 40

Type B
Pressure angle 20°
Ratio 1:4



Material selection：Steel C45, 42CrMo, 20CrMnTi.
Surface treatment selection: Hardening teeth, Oil, Black oxide, Carburizing.
For large module gears, or not 45°gears, pls contact Fekerman directly.
Accept custom made gears.

Helical Gears

Fekerman manufactures different modules helical gears as per the customers requirement.

Modules of Helical gears							
1.5	2	2.5	3	4	5	6	8



Made-to-order Helical gears

Application:



Unmanned Aerial Vehicle



Industrial Robot



Speed reducer



Printing industry

Material: C45, 42CrMo, 20CrMnTi.
Heat treatment: Hardening teeth, Carburizing.
For custom made gears, pls contact Fekerman directly.