BEVEL GEARS

The range of bevel gear showed in the catalogue is a selection structured according to transmission module and ratio, which is designed to meet the needs of general plant engineering and general mechanics to transmit motion among concurrent axes.
As such the range does not claim to guarantee particularly heavy-duty performance or to cater for ratio ranges that extend to cover every need.
The external configuration of the bevel gear complies with the sizing criteria as established by the DIN 3971 Standards, while the tooth geometry, corrected by displacing the profiles and by varying the taper, is a specific solution exclusive to **CHIARAVALLI Trasmissioni.**
This solution, provides special advantages since:

- the coupling conditions between the pinion and the ring gear are improved;
- a smoother motion transmission is assured;
- tooth resistance is increased;
- the undercut effect on the pinion is avoided, even in the case of high transmission ratios and pinions with a limited number of teeth.

Since these refer to a selection of gears intended to be used in a broad range of applications, **CHIARAVALLI Trasmissioni**, continuing a tradition that has now become firmly established, has defined a standardised tolerance category for the processing of the Company's range of bevel gear, which means that there is a controlled gearing gap between the wheels.
The requirements detailed in the DIN 3967 Standards adapted to the virtual teeth profile of the bevel gear and the recommendations of the DIN 3964 Standards to calculate the corresponding axial displacements for the assembly distances have been used for this purpose.
We are therefore in a position to provide the end user precise information regarding the tolerances to be adopted to define shaving adjustments to a given clearance, in accordance with the values detailed in the dimensional tables.
All the bevel gears manufactured by **CHIARAVALLI Trasmissioni** will be produced in accordance with the profile envelope procedure on modern gear cutting machines, which enables **CHIARAVALLI Trasmissioni** to ensure a satisfactory quality level thanks to the systematic checking of processing tolerances.
For this technological sector too, the equipment and the range of machines available to **CHIARAVALLI Trasmissioni** enables the Company to produce bevel gears based on a drawing and in accordance with the Customer's specifications.

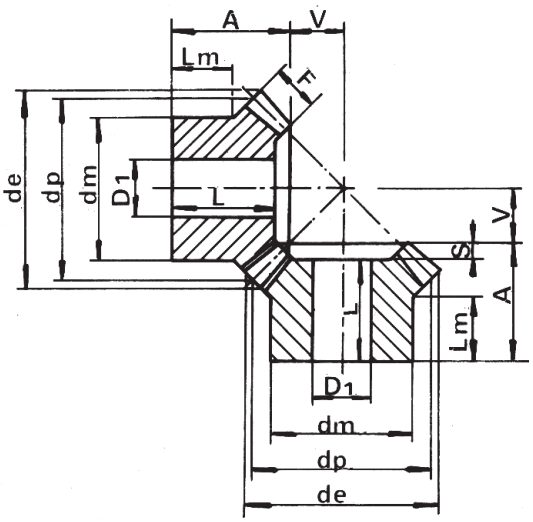
MATERIAL: C 43 – UNI 7847

M	Z	d_p	d_e	F	A	d_m	D_1	L	V	S	L_m
1.5	16	24.0	26.12	6	18.9	20.3	8		7.10		12
	20	30.0	32.12	10	20	22	10	18	7.40	2	8.5
	25	37.5	39.62	10	23	28	10	21	11.09	2	12
	30	45.0	47.12	12	25	30	12	22.5	13.35	2.5	12
2	16	32.0	34.83	8	23.5	25.3	8		9.50		14
	20	40.0	42.83	12	25	32	10	22	10.78	3	12
	25	50.0	52.82	14	28	40	12	25	14.28	3	12.3
	30	60.0	62.83	16	30	50	12	27	17.78	3	12.8
2.5	16	40.0	43.53	10	28.1	30.3	12		11.90		15
	20	50.0	53.53	12	30.5	40	12	27	15.43	3.5	16
	25	62.5	66.00	15	33.5	50	15	30	19.48	3.5	16
	30	75.0	78.53	18	35.5	55	15	32	23.63	3.5	16
3	16	48.0	52.25	12	31.7	40.3	12		14.30		18
	20	60.0	64.24	18	35	45	15	31	16.00	4	13.6
	25	75.0	79.24	20	38	55	15	34	22.00	4	16
	30	90.0	94.24	22	40	60	20	36	28.00	4	17
3.5	16	56.0	60.95	14	36.4	45.3	16		16.60		20
	20	70.0	74.95	22	40.5	55	15	36	18.13	4.5	17
	25	87.5	92.45	26	43.5	65	20	39	23.97	4.5	18
	30	105.0	109.95	30	48	70	20	43.5	30.02	4.5	19
4	16	64.0	69.65	15	44.3	50.3	16		19.70		25
	20	80.0	85.65	25	43	60	18	38	20.74	5	18
	25	100.0	105.65	28	45	70	20	40	28.50	5	18
	30	120.0	125.65	32	48	80	20	43	35.67	5	16
4.5	16	72.0	78.38	17.5	46.3	55.3	20		21.70		25
	20	90.0	96.38	28	48	65	20	42	23.41	6	18
	25	112.5	118.80	32	50	75	20	44	31.76	6	18
	30	135.0	141.38	35	53	90	20	47	40.82	6	17
5	16	80.0	87.07	18	48.9	60.3	20		25.10		25
	20	100.0	107.07	30	50.5	70	20	44	26.86	6.5	18.5
	25	125.0	132.07	34	53.5	90	20	47	36.36	6.5	18
	30	150.0	157.07	38	56.5	110	20	50	45.97	6.5	18

Normal axis Bevel Gears

Pressure angle: 20°
in compliance with UNI 6588

Ratio – 1:1



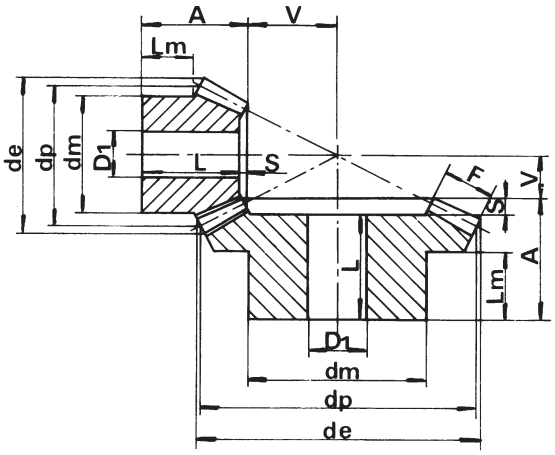
MATERIAL: C 43 – UNI 7847

M	Z	d_p	d_e	F	A	d_m	D_1	L	V	S	L_m
1.5	16	24	26.68	8	19.5	21	10	18	16.33	1.5	11.3
	32	48	49.34	8	20.0	32	12	17	7.45	3	10
2	16	32	35.57	10	23.0	26	10	21	22.41	2	11.9
	32	64	65.78	10	25.0	40	12	21	10.21	4	10
2.5	16	40	44.47	12	27.5	34	12	25	28.38	2.5	14.4
	32	80	82.23	12	25.0	50	15	20	12.97	5	10
3	16	48	53.36	15	28.0	40	15	25	33.64	3	11.6
	32	96	98.68	15	30.0	60	15	24	15.31	6	10
3.5	16	56	62.26	18	33.5	48	15	30	38.83	3.5	14.4
	32	112	115.12	18	31.0	70	20	24	17.77	7	10
4	16	64	71.15	20	36.0	50	15	32	44.81	4	13.4
	32	128	131.57	20	32.0	80	20	24	20.42	8	10
4.5	16	72	80.05	22	39.5	60	20	35	51.00	4.5	15.4
	32	144	148.00	22	36.0	90	20	27	23.21	9	10
5	16	80	88.94	25	50.0	60	20	45	56.06	5	21.1
	32	160	164.46	25	38.0	100	20	28	25.52	10	10

Normal axis Bevel Gears

Pressure angle: 20°
in compliance with UNI 6588

Ratio – 1:2



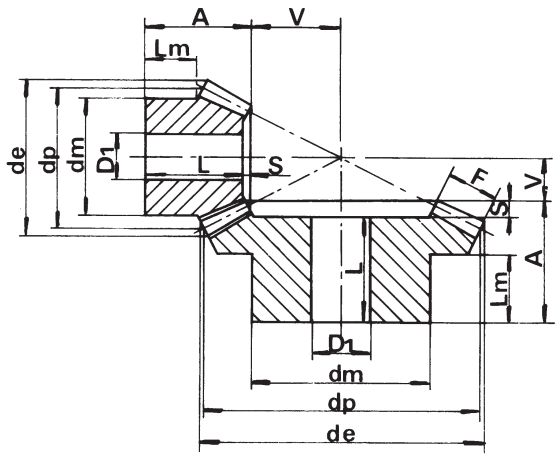
MATERIAL: C 43 – UNI 7847

M	Z	d_p	d_e	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

Normal axis Bevel Gears

Pressure angle: 20°
in compliance with UNI 6588

Ratio – 1:3



MATERIAL: C 43 – UNI 7847

M	Z	d_p	d_e	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	125.06	2.5	20.6
	64	320	322.42	35	58	150	20	48	27.65	10	25

Normal axis Bevel Gears

Pressure angle: 20°
in compliance with UNI 6588

Ratio – 1:4