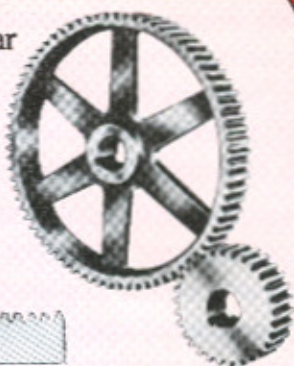


GEAR DRIVES

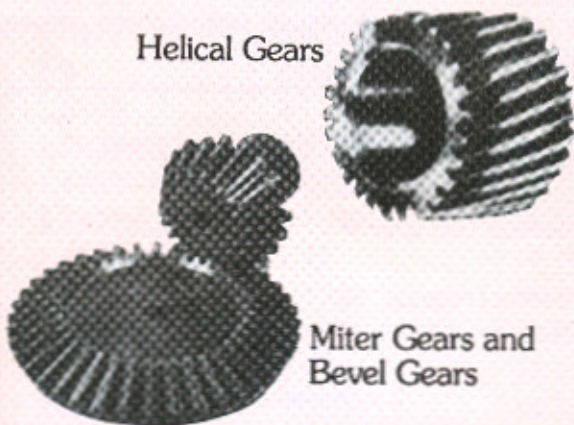
Spur Gear



Rack and Pinion

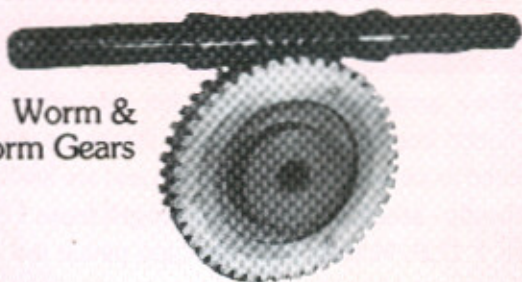


Helical Gears



Miter Gears and Bevel Gears

Worm & Worm Gears



Meritt
T·R·A·N·S·M·I·S·S·I·O·N·S

157 / 159, Narayan Dhuru Street,
Behind Nagdevi Street, Bombay - 400 003.
Tel: 344956, 342857, 328342.

Gram : Seawizard



Spur Gear

Meritt Spur gear and pinion are manufactured for the greatest efficiency by meeting constant gear ratio, provision of contact along the full length of tooth and proper backlash. It are checked to see that it transmit power without tooth interference, with a proper length of contact and without under noise.

Gears available in **READY-STOCK** are of unhardened steel or cast iron, with pilot bore from **16 D.P.** to **1 D.P.**, with suitable face length. Module pitch gears are manufactured against requirement. Any size of made to order, non standard gears as per drawing can be manufactured on request with quickest delivery time.

Formulae :

$$\text{Diametral Pitch} = \frac{\text{Number of Teeth}}{\text{Pitch Diameter}}$$

$$\text{Outside Diameter} = \frac{\text{Number of Teeth} + 2}{\text{Diameter Pitch}}$$

$$\text{Centre Distance} = \frac{\text{Number of Teeth in gear} + \text{Number of Teeth in Pinion}}{2 \times \text{Diameter Pitch}}$$

Rack and Pinion

There arrangement is used for translating rotary motion into translatory motion. Racks are manufactured as same accuracy as pinion and are available in **Ready - stock in different length from 16 D.P. to 1 D.P.** Module pitch rack and pinion are manufactured against requirements.

Formulae :

$$\text{Distance from back of rack to pitch line} = \text{Overall height} - \frac{1}{\text{D.P.}}$$

Helical Gears

Meritt helical gears are used for higher speed, lesser noise, greater tangential load and lesser dynamic stress. These gears have many outstanding features such as gradual engagement of teeth, increased length of contact and distribution of load over more teeth, all of which account for quietness, high efficiency and operation at high speeds.

Formulae :

$$\text{Pitch Diameter} = \frac{\text{No. of Teeth} \times \text{Module}}{\text{Cosine of helix angle}}$$

$$\text{Outside Diameter} = \text{Pitch Diameter} + 2 \text{ Module}$$

Miter Gears and Bevel Gears

Miter Gears connects shafts operating at right angles and where speed ratio of 1:1 are required. These gears are designed to run with mating gear of identical tooth dimensions to assure satisfactory operation. Bevel Gears are required for speed ratios other than 1:1 and must be operated in pairs to assure proper tooth contact.

Miter Gears and Bevel Gears available in **Ready-Stock are of unhardened steel on cast iron from 16 D.P. to 2 D.P.**, with different number of teeth and face width. **Bevel Gears are available in the ratios of 1:1.5, 1:2, 1:3, 1:4 and 1:6.**

Any size of made to order gears as per drawing can be manufactured on request with quickest delivery time.

Formulae :

$$\text{Pitch Diameter} = \frac{\text{No. of Teeth}}{\text{Diametral Pitch}}$$

$$\text{Outside Diameter} = \text{Pitch Diameter} + 2 \frac{\text{Cosine Pitch Cone Angle}}{\text{Diametral Pitch}}$$

Worm & Worm Gears

Meritt Worm and Worm gears are best when motion is to be transmitted between non-parallel, non-intersecting and non-coincident shafts (right angles) at a very high speed ratio. Worm gears transmit power by a continuous, shockless, wedging action without noise or vibration. Three or more teeth are in contact at all times, giving an even flow of torque and uniform angular velocity.

Worm gears can be supplied with **center distances from 2¹/₂"**. All **Ready stock worms are made of unhardened steel with polished threads, single start** and available in wide range of ratios for **diametral pitch of 16 to 4**.

Worm wheel can be made available in bronze, cast-iron, phosphor bronze or case hardened steel.

Formulae : (Worm Gear)

$$\text{Pitch Diameter} = \frac{\text{No. of Teeth}}{\text{Diametral Pitch}}$$

$$\text{Throat Diameter} = \text{Pitch Diameter} + \frac{2}{\text{Diametral Pitch}}$$

$$\text{Max. Diameter} = \text{Throat Diameter} + \frac{1}{\text{Diametral Pitch}}$$

OTHER PRODUCTS

1. Sprockets
2. Roller Chain
3. Conveyor & Elevator Chains
4. Coupling.

PLEASE ENQUIRE



Table of Standard Gear Pitches

Diametral Pitch	Circular Pitch in.	Module m.m.
1	3.1416	25.4
1.016	3.0921	25
1.0472	3	24.2552
1.1424	2.75	22.2339
1.1545	2.7211	22
1.25	2.5133	20.3200
1.2566	2.5	20.2127
1.2700	2.4737	20
1.3963	2.25	18.1914
1.4111	2.2263	18
1.5	2.0944	16.9333
1.5708	2	16.1701
1.5875	1.9790	16
1.6755	1.875	15.1595
1.75	1.7952	14.5143
1.7952	1.75	14.1489
1.8143	1.7316	14
1.9333	1.625	13.1382
2	1.5708	12.7
2.0944	1.5000	12.1276
2.1167	1.4842	12
2.25	1.3963	11.2889
2.2848	1.375	11.1170
2.50	1.2566	10.16
2.5133	1.250	10.1063
2.54	1.2368	10
2.75	1.1424	9.2364
2.7925	1.125	9.0957
2.8222	1.1132	9
3	1.0472	8.4667
3.1416	1	8.0851
3.1750	.9895	8
3.3510	.9375	7.5798
3.5	.8976	7.2571
3.5904	.875	7.0744

Table of Standard Gear Pitches

Diametral Pitch	Circular Pitch in.	Module m.m.
3.6286	.8658	7
3.8666	.8125	6.5691
4	.7854	6.350
4.1888	.75	6.0638
4.2333	.7421	6
4.5695	.6875	5.5585
5	.6283	5.080
5.0266	.625	5.0532
5.0801	.6184	5
5.585	.5625	4.5479
6	.5236	4.2333
6.2832	.5	4.0425
6.350	.4947	4
7	.4488	3.6286
7.1808	.4375	3.5372
7.2571	.4329	3.50
8	.3927	3.175
8.3776	.375	3.0319
8.4667	.3711	3
9	.3491	2.8222
10	.3142	2.540
10.0531	.3125	2.5266
10.160	.3092	2.5
11	.2856	2.3091
12	.2618	2.1167
12.5664	1.25	2.0213
12.700	.2474	2
13	.2417	1.9538
14	.2244	1.8143
15	.2094	1.6933
16	.1963	1.5875

Note : Gears can be supplied with through hardened or flame hardened teeth.

Gears available in Steel casting, forged steel, alloy steel, graded cast iron etc.