



INVOLUTE TOOLING CORPORATION

Manufacturers of Drives and Transmissions

Directional Force Geared Exciter

Directional Force Geared Exciter is a heavy-duty gearbox used to create linear vibrations for bulk material handling with high feed rates.

The gearbox consists of two counter-rotating shafts with two counter weights each, which create ample resultant centrifugal force to produce linear motion for vibrating screens, feeders etc.

The gearbox contains hardened and ground gears in a cast housing.

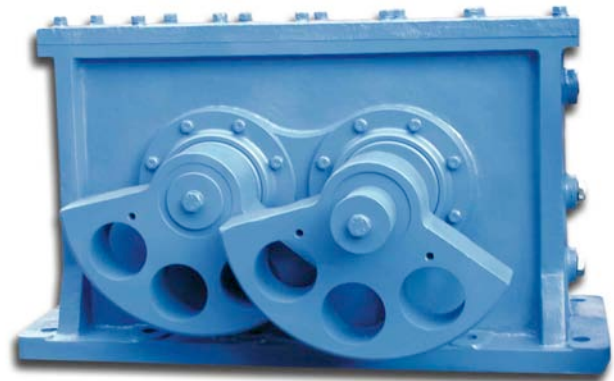
The special attention is paid in manufacturing the counter weights such that the required static moment is delivered. Additional holes are provided on the counter weights to adjust the mass according to the required static moment.

The gearbox is available in **4 standard sizes**. We can design and manufacture the gearbox as per customer specifications and application needs with input speed ranging from **750 – 1500 rpm** and dynamic moments from **500 kg cm – 170,000 kg cm**.

Since the load on the bearings varies in a sinusoidal pattern, special spherical roller bearings are used to accommodate the high radial accelerations and centrifugal forces. The bearings are lubricated by oil splash due to high-speed operation of the gears.

Customization: The material of the counterweights, input speed, larger sizes of exciters available as per customer specifications.

Applications: Screening, primary feeding, conveying, feeding, packing, extraction, purification, segregation of bulk material in the mining, iron, steel, cement, fertilizer, chemical and ceramics industries.

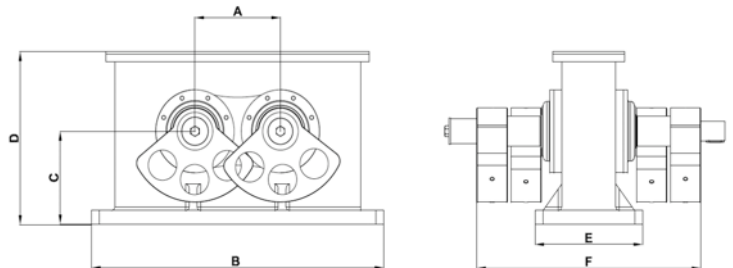


Gearbox Selection:

The gearbox selection is based on the machine mass and the amplitude of vibration. Usually high stroke applications require lower speed gearboxes and vice versa.

$$\text{Static Moment} = \text{Amplitude of Vibration} \times \text{Machine Mass}$$

$$\text{Dynamic Moment} = 2 \times \text{Static Moment}$$



Model	GE240A	GE240B	GE275A	GE275B	GE300A	GE300B	GE375A	GE375B
Speed (rpm)	1000	750	1000	750	1000	750	1000	750
Dynamic Moment (kg cm)	min	1020	1335	1680	2400	2830	2320	4550
	max	1600	2650	3250	4600	5600	6200	15200
Approx. Weight (kg)	350	400	520	560	950	1050	1350	1600
Max. Load Rating (kN)	88	85	179	142	307	192	494	469
Motor Rating (kW)	5.5	5.5	7.5	7.5	15	15	22	30
Dimensions								
A	240	240	275	275	300	300	375	375
B	820	820	780	780	830	830	1040	1040
C	246	246	310	310	315	315	370	370
D	460	460	570	570	570	570	675	675
E	302	302	340	340	380	380	470	470
F	438	438	580	580	885	885	935	995

*All Dimensions in mm
*Dimensions are subject to change