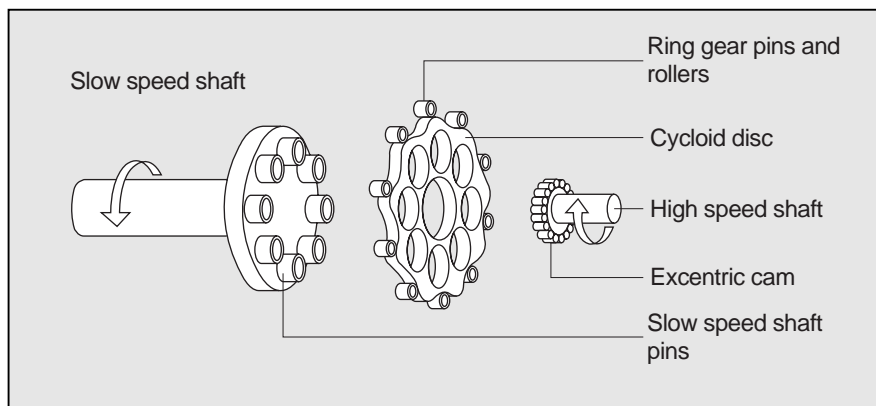


HOW IT WORKS

The unique CYCLO speed reducing system is based on an ingeniously simple principle that offers many benefits to the designer and user of power transmission drives. Basically, the speed reducer has only three major moving parts:



As the eccentric cam rotates, it rolls the cycloid discs around the internal circumference of the stationary ring gear.

The resulting action is similar to that of a wheel rolling around the inside of a ring. As the wheel (cycloid disc) travels in a clockwise path around the ring (ring gear housing), the wheel itself turns slowly on its own axis in a counter-clockwise direction. In the CYCLO system the cycloidal profile around the outer edge of the disc engages progressively with the rollers of the fixed ring gear housing to produce a reverse rotation at reduced speed. For each complete revolution of the high speed shaft, the cycloid disc turns one cycloidal tooth pitch in the opposite direction. In general, there is one less cycloidal tooth around the disc than there are pins in the fixed ring gear housing, which results in reduction ratios equal to the number of cycloidal teeth on the disc. (Note: For some ratios, there are two less teeth per cycloid disc than there are pins in the ring gear housing.)

The reduced rotation of the cycloid discs is transmitted to the slow speed shaft by means of drive pins and rollers that engage with holes located around the middle of each disc.

Typically, a two disc system is used with a double eccentric cam which increases the torque capacity and offers an exceptionally smooth, vibration-free drive.

