

# Components of a Cycloidal Gear

## What is a Cycloidal Gear

A Cycloidal Gear is a type of gear that uses a tooth profile based on cycloidal curves to generate high gear ratios. A cycloidal curve occurs when one circle rolls around the outside or inside of another circle. Cycloidal gears take advantage of both of these curves to ensure constant angular velocity and their constructions provide advantages over involute gears or a typical gear with teeth that you imagine when you think of gears.

## What it's made of

1. shaft
2. an output disk
3. and at least one cycloidal disk

## How it works

The cycloidal disk rolls around a set of pins on the inside of the outside of the output disk. The cycloidal disk drives depends connected to the output disk which transforms motions through the load.

Cycloidal gears are able to provide transmission ratios up to 300 to 1 doing so with less friction and less wear on the gear teeth because of their role in contact.

They provide great torsional stiffness and have the capacity to withstand shock loads making cycloidal disks ideal for heavy industrial applications that require servo precision.

## Benefits

1. lifelong service
2. high reduction ratio
3. easy to assemble
4. compact design