FA Series Harmonic Drive

Application

Industrial robot

Service robots

Metal machine tools

Medical Devices

Analysis, Test, Equipmen

Energy Related equipment

Papermaking Equipment

Harmonic Drive

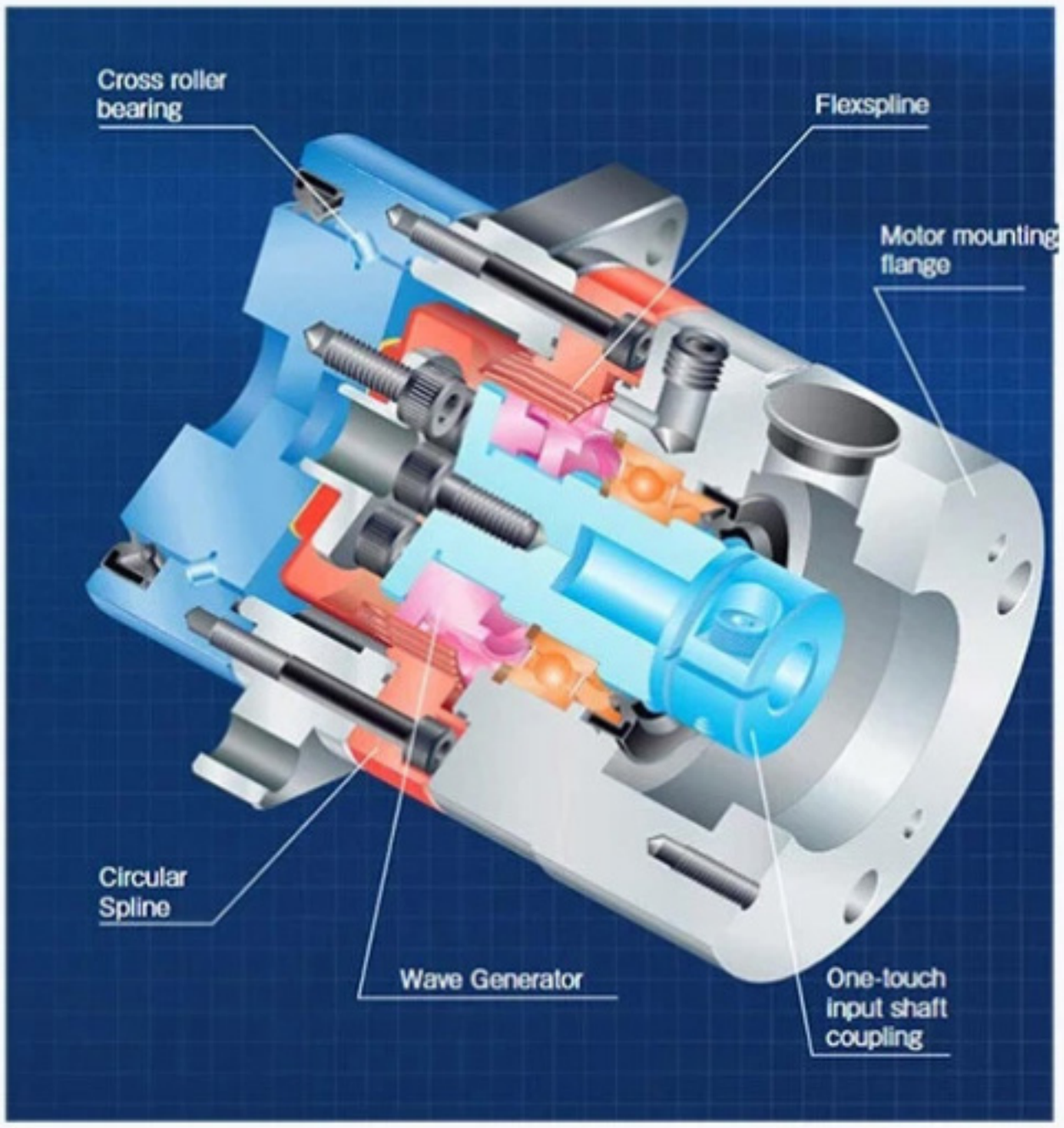
Features

Operating Principle

Harmonic gear transmission is a new type of mechanism that relies on elastic deformation motion to achieve transmission
It breaks through the mode of mechanical transmission using rigid component mechanisms and uses a flexible component to Realize mechanical transmission, thus obtaining a series of special functions that are difficult to achieve by other transmissions.

High Precision

1. Large transmission ratio
2, high return accuracy (due to the number of meshing teeth and the tooth surface sliding speed is low, making the bearing capacity is high, Smooth transmission, high precision, low noise).
3, small return difference (tooth side clearance can be adjusted, can achieve zero backlash transmission)
4, high transmission efficiency (not affected by large transmission ratio); It occurs by



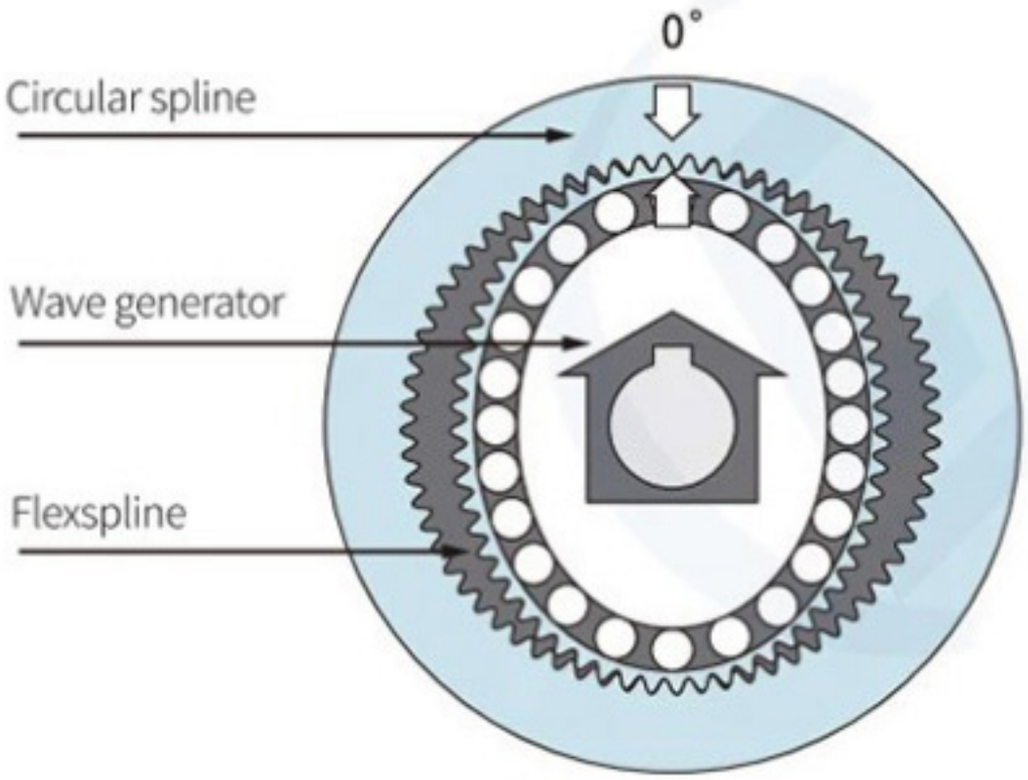
Easy to install

The three basic components achieve a high deceleration ratio, and they are all coaxial, so the kit is easy to install and simple to shape.

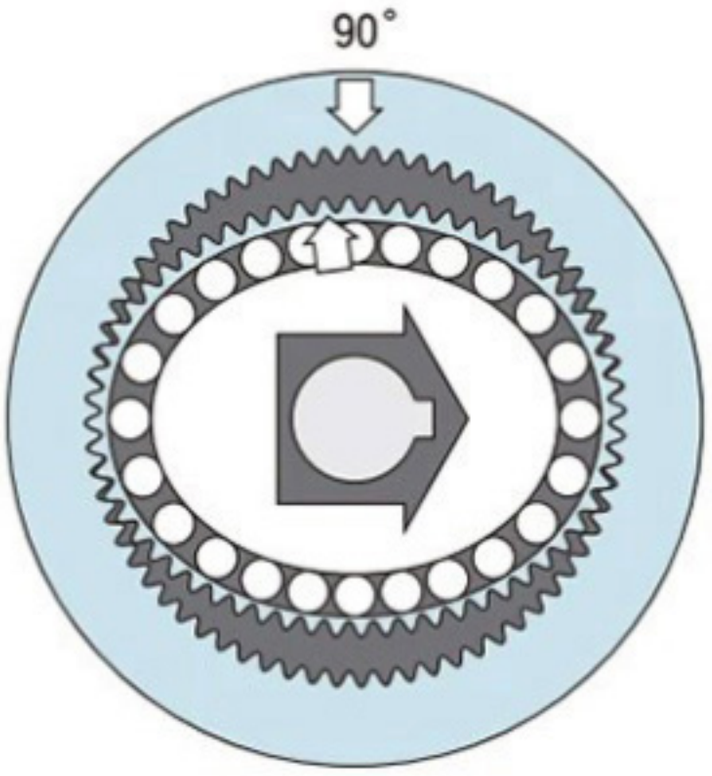
Small size, light weight: compared with the previous gear device, the volume is 1/3, the weight is 1/2, but the same torque capacity and deceleration ratio can be obtained to achieve small weight.

Safety matters

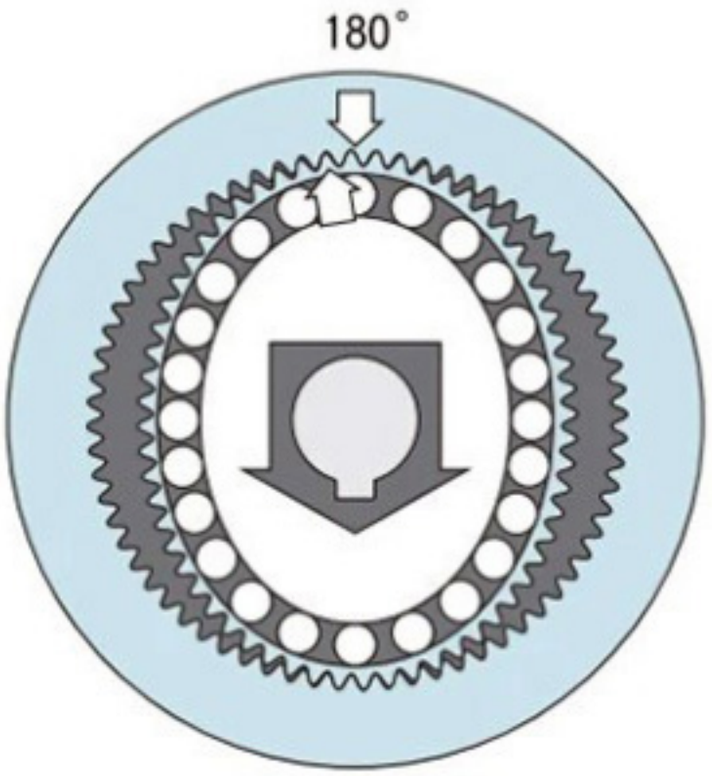
1. Do not check the tightness of the screws during operation to avoid causing Personnel injuries.
2. Do not touch with your hands during operation to avoid scratching your palms.
3. When stopping for inspection, it is necessary to conduct maintenance after the machine has stopped stably.
4. After prolonged work, avoid scalding caused by excessive temperature, Touching should be done about 10 minutes after shutdown



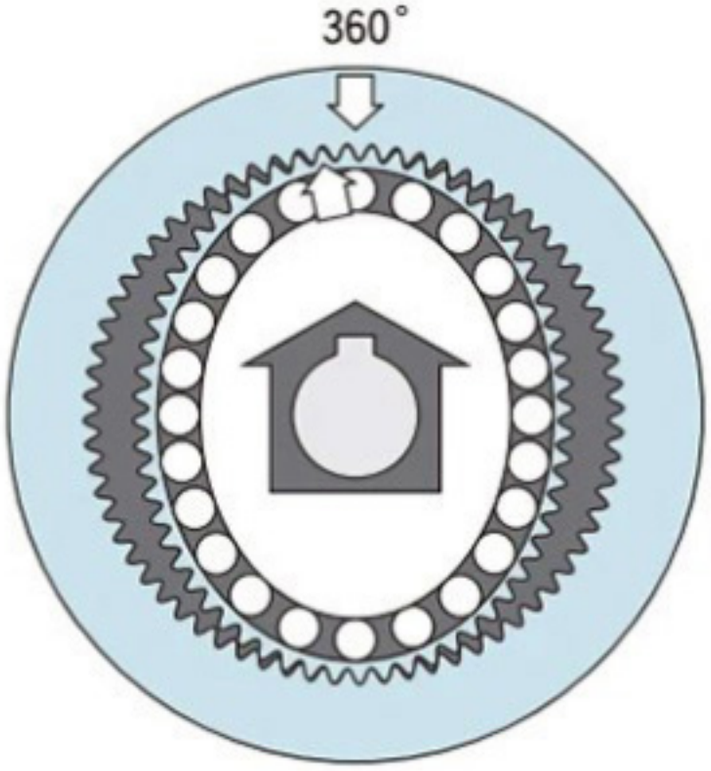
The flexspline is forced into an elliptical shape by the wave generator causing the flexspline teeth to engage with the tooth profile of the circular spline along the major axis of the ellipse, with the teeth completely disengaged across the minor axis of the ellipse.



As the wave generator rotates clockwise with the circular spline fixed, the flexspline is subiected to elastic deformation and its tooth engagement position moves turning relative to the circular spline.



As the wave generator rotates 180 degrees clockwise,the flexspline moves counterclockwise by one tooth relative to the circular spline.



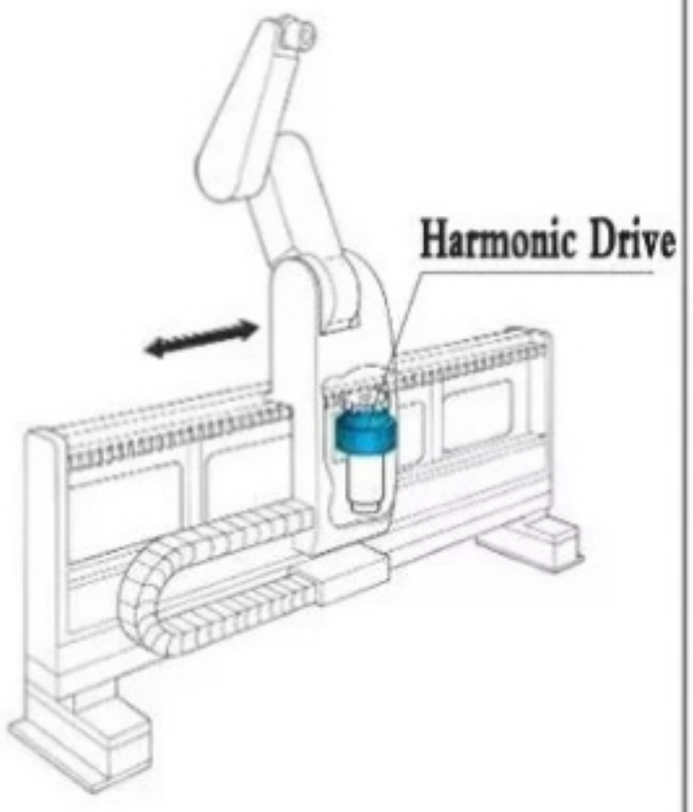
For every one full rotation clockwise (360 degrees) of the wave generator, the flexspline moves counterclockwise by two teeth relative to the circular spline because the flexspline has two fewer teeth than there are on the circular spline. In general, this movement is treated as output performing.

Harmonic Drive Reducer

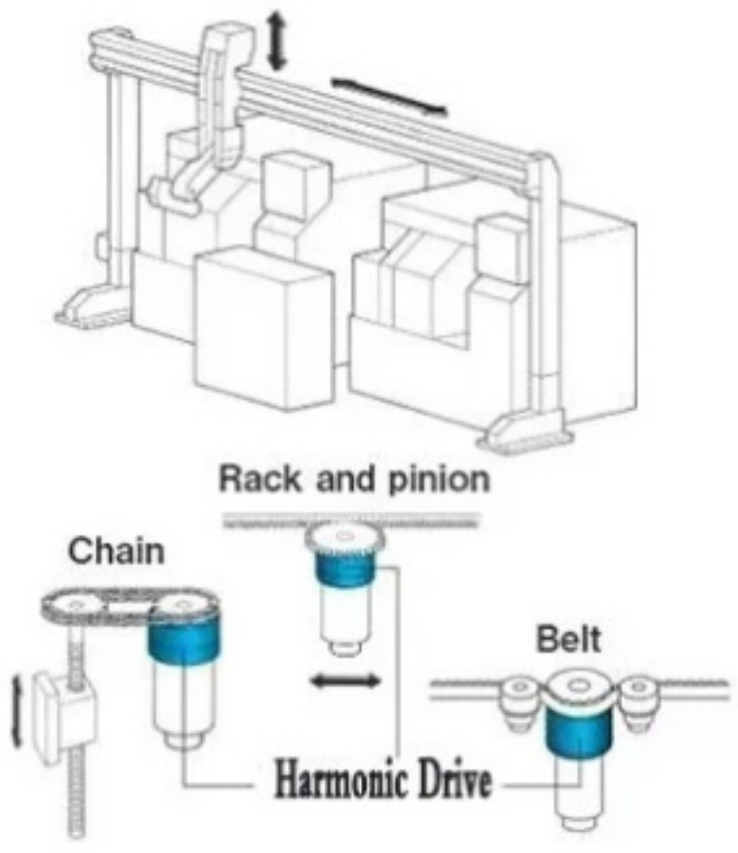
≤20 ArcSec

Harmonic Drive Application Scenario

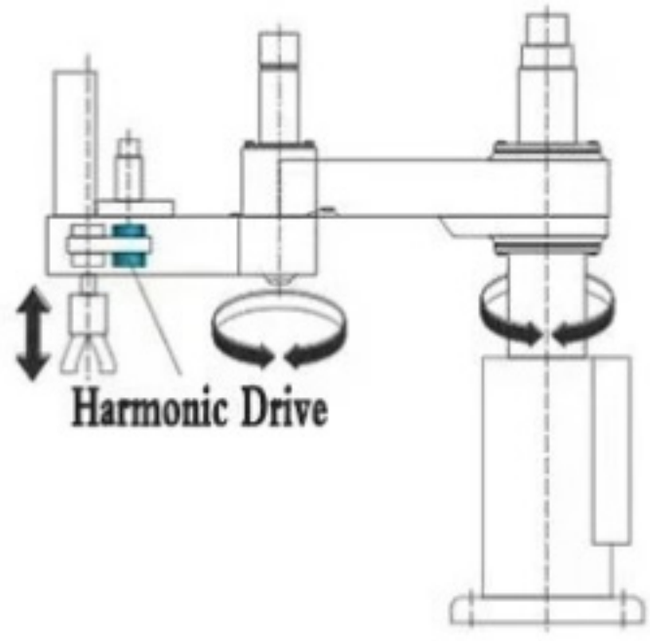
Linear axis for robots (Racks and pinions)



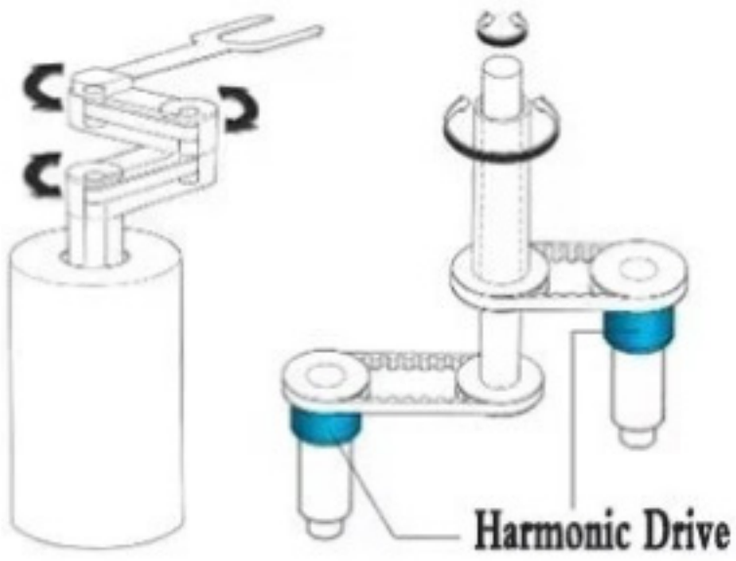
Loading and unloading equipment



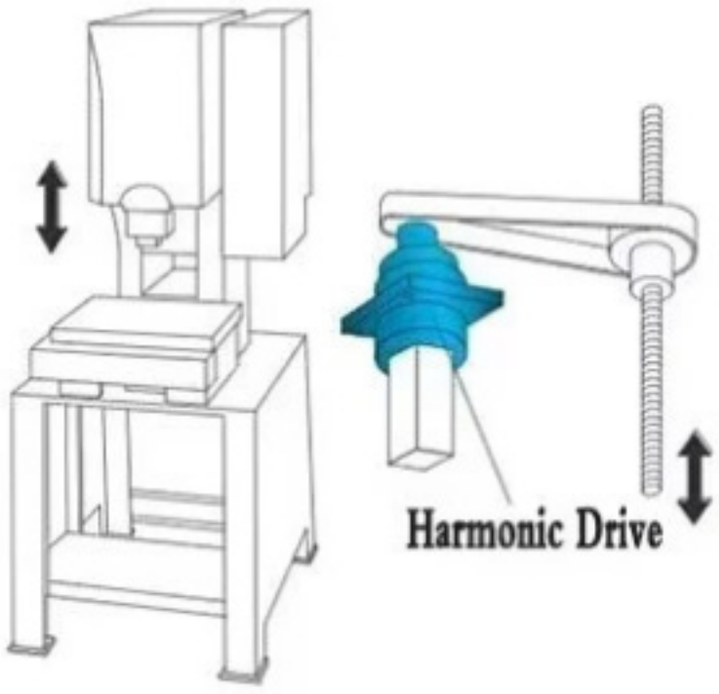
Primary axes of scara robots



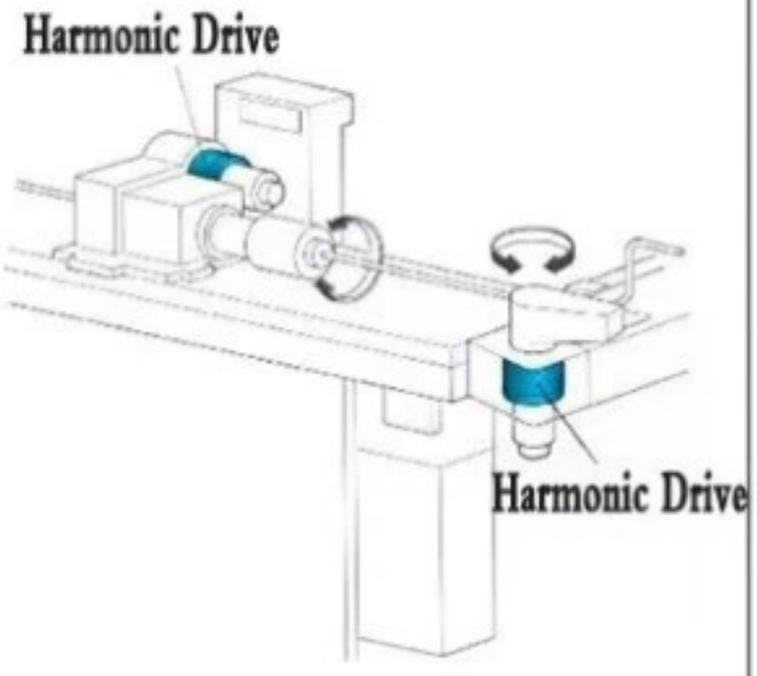
Wafer transfer robots



Presses (Caulking)



Pipe benders



Application scope: