

Traction Drive Unit

Reducer for high-accuracy feeding



Minimal rotation irregularity

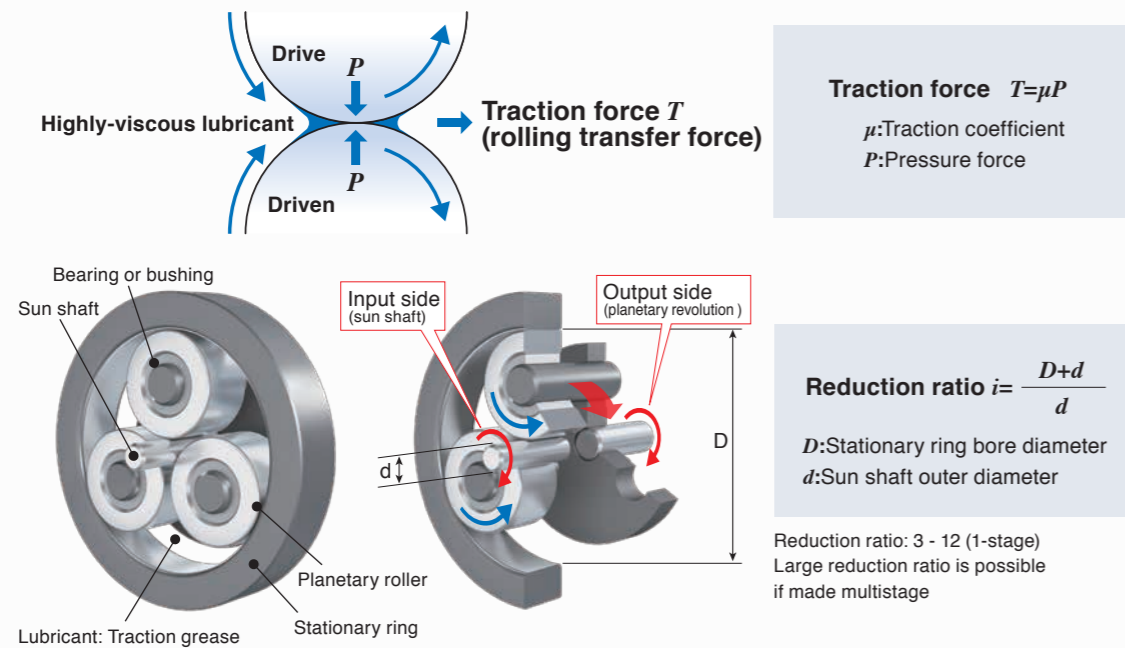
No backlash

Low noise, low vibration

A Traction Drive Unit conceived from bearing core technologies

The traction drive unit is a power transmission based on the rolling contact between rollers and is capable of smooth, rattle-free power transfer. High-accuracy and high-strength rollers are subjected to elastic deformation prior to assembly, achieving high pressure force. Additionally, by introducing traction grease that becomes highly viscous under high pressure, it is possible to achieve excellent power transfer while securing lubricity.

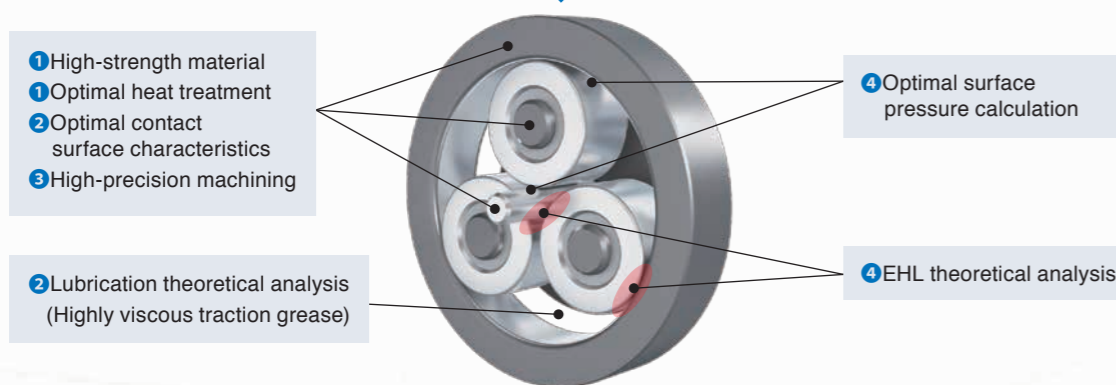
Principle and Structure



Application of JTEKT Core Technologies

Taking bearing technologies accumulated over many years under the KOYO brand and applying them to traction drive units.

- ① Materials, heat treatment technology
- ② Tribology technology
- ③ High-precision machining technology
- ④ Analysis technology



Rotation stability

No backlash

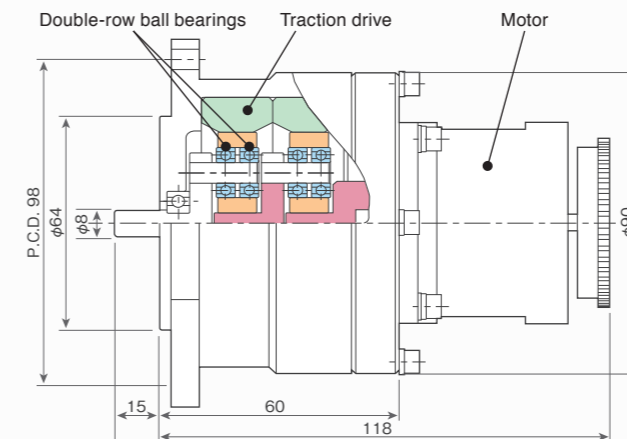
Low noise, low vibration

Ideal for High-accuracy Feeding

Specification Examples

No Backlash Type

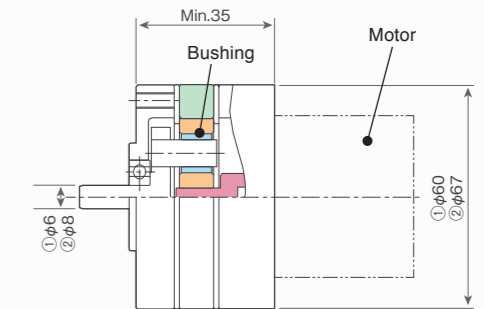
Backlash has been eliminated and friction reduced by adjusting the internal clearance of the ball bearings in the planetary roller.



Reduction ratio	100 (2-stage reduction)
Torque (output shaft)	2N·m
Rotating speed fluctuation coefficient	±0.5% or less
Backlash	0.01deg or less

Compact Type

The compact design incorporates a bushing in the planetary roller.

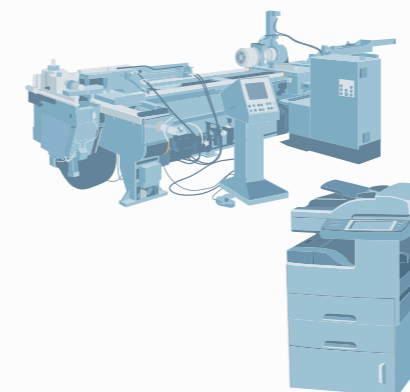


	①	②
Reduction ratio	10	5
Torque (output shaft)	2~4N·m	7.5~12N·m
Rotating speed fluctuation coefficient	±0.5% or less	

Customization according to customer requests is available, so please do not hesitate to contact us.

Application Examples

- Printers
- Machine tools
- FPD manufacturing equipment
- ROBOT
- And more



Reducer with a Minimal Rotation Irregularity Unachievable Using Gears

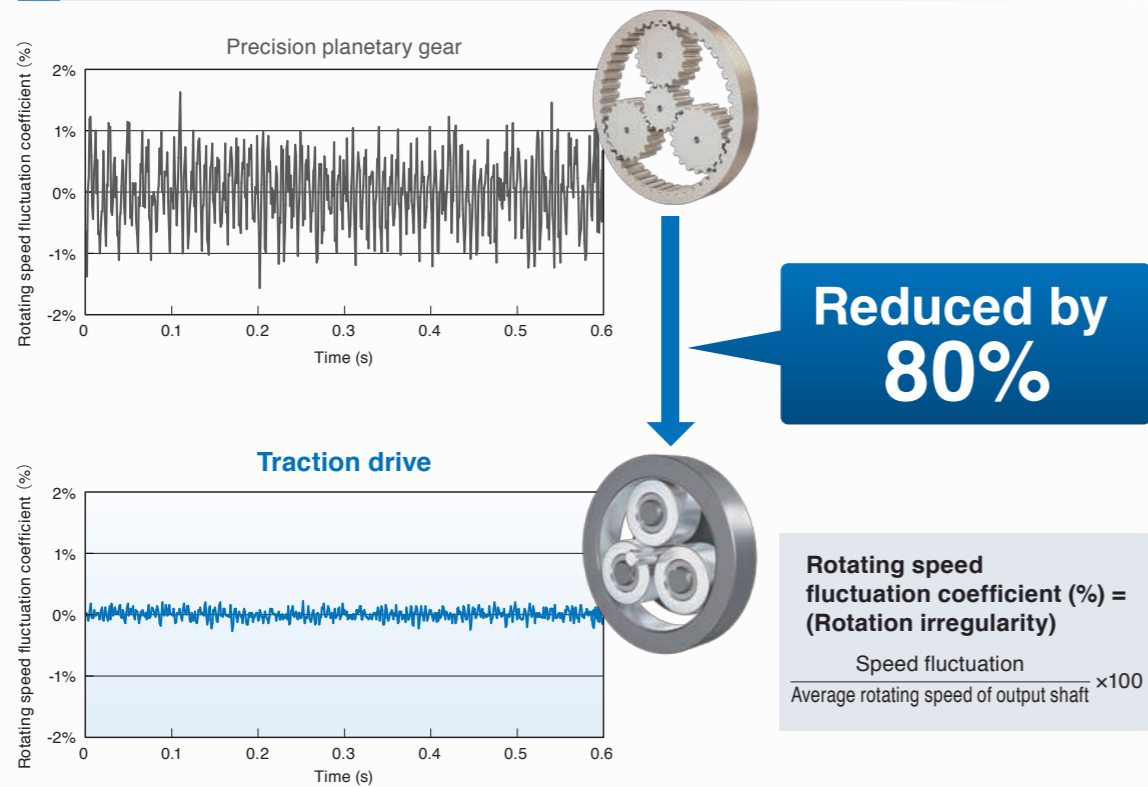
Features

Comparison with planetary gear

Mechanism	Rotation irregularity	Backlash	Noise/Vibration	High-speed performance	Torque capacity
Traction drive	○	○	○	○	△
Planetary gear	△	△	△	△	○

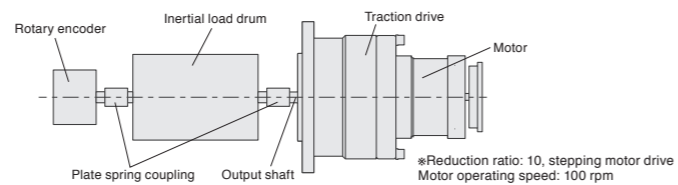
Measurement examples

1 Rotation irregularity

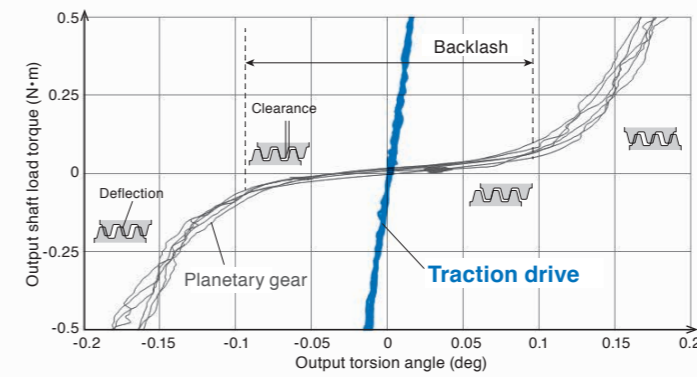


Measurement method

Run the motor at a set speed measuring rotating speed of the output shaft using the rotary encoder

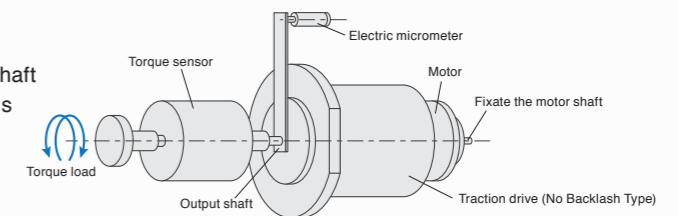


2 Backlash

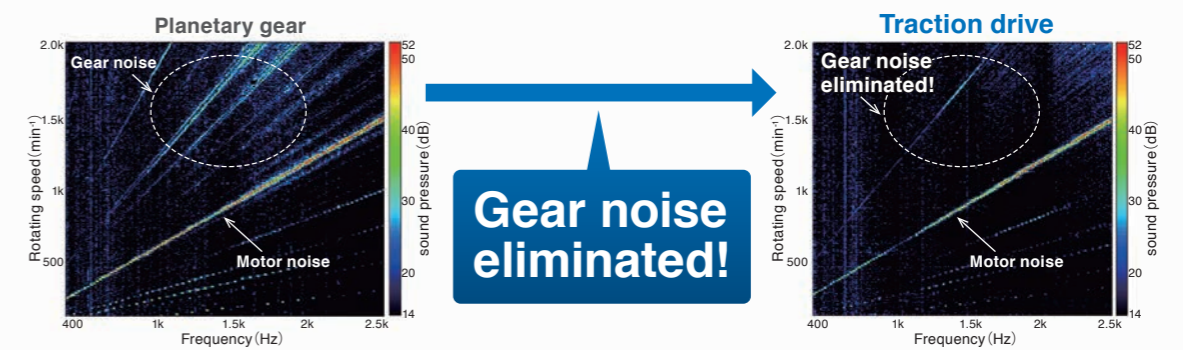


Measurement method

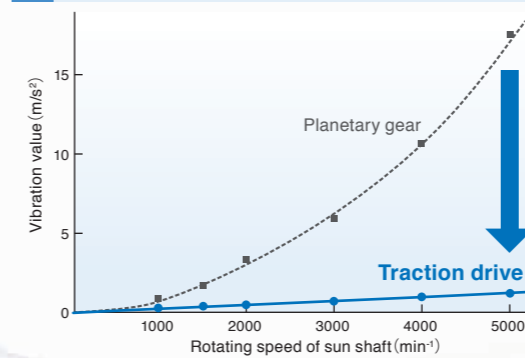
Measure the torsion angle of the output shaft when the motor shaft is fixed and torque is applied to the output shaft clockwise and counter-clockwise



3 Noise



4 Vibration



Vibration reduced by approx. 90%

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