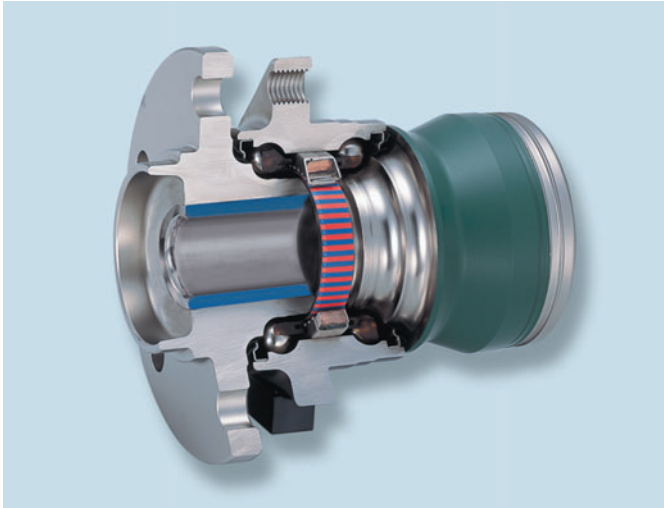


Hub Bearing with Wireless ABS Sensor

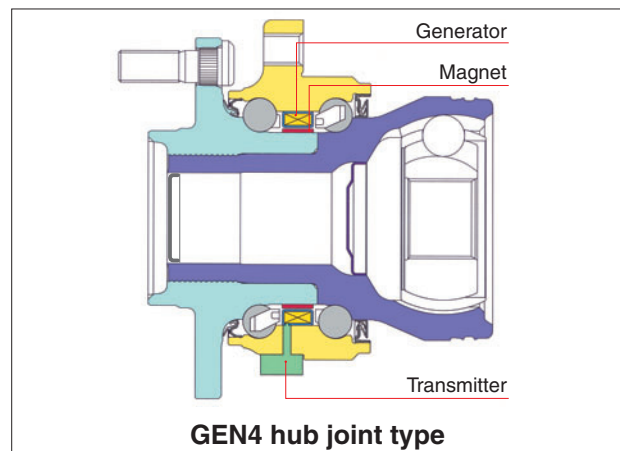
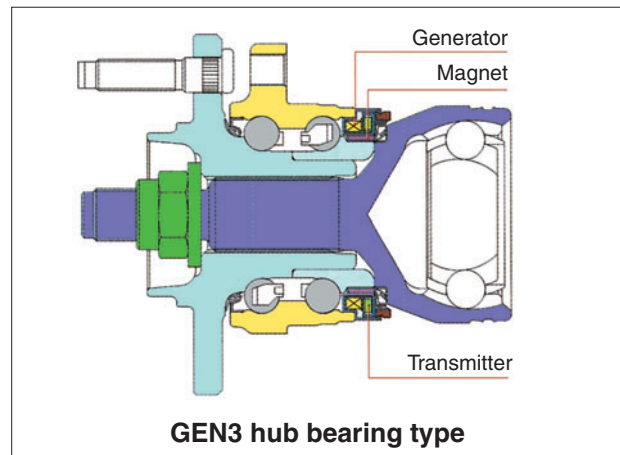
The wireless ABS sensor module is a single unit containing a hub bearing, hub joint, high-efficiency generator, and wireless transmitter. Use of the generator output as a power supply and sensor signal allows wireless transmission of the wheel speed signal.



Features

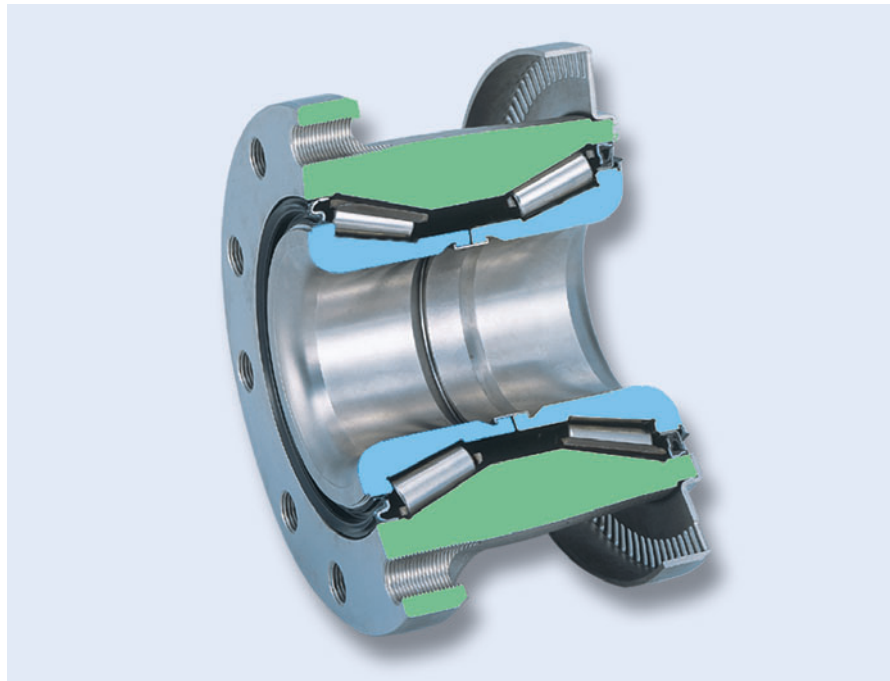
- **Compact**
Hub bearing, hub joint, and sensor are integrated into one unit.
- **Reduced assembly time**
No wiring is required between the wheel and tire housing.
- **Improved safety (Prevention of accidents caused by damaged or broken wires)**
No wiring is used in moving parts.
- **Improved design flexibility**
Entire sensor is integrated into a single unit.
- **Possible to activate ABS function at very low speeds.**
It also detects wheel slippage during acceleration.

Structure



GEN2 Tapered Hub Bearing for Large Commercial Vehicles

The outer ring and hub are integrated into a single lightweight greased and sealed unit with high-reliability features.

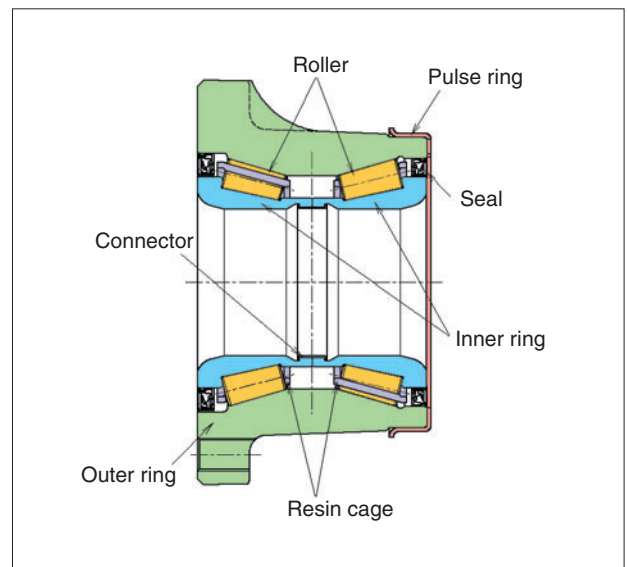


Features

- Requires no preload adjustment (Unit is designed to have the appropriate preload after assembly on the vehicle).
- Ease of assembly, maintenance, and inspection.

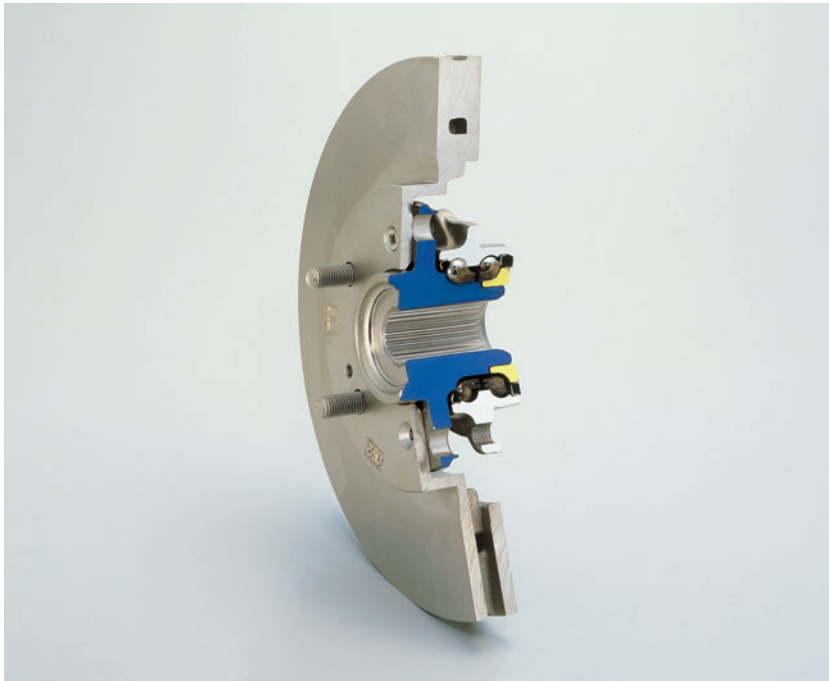
Bearing Specifications

- Outer ring material: NTN's unique SC steel with excellent fatigue strength and shock resistance
- Inner ring and roller material: NTN's unique long-life carburized steel with excellent hardness, toughness, and shock resistance
- Lubrication: Long-life Urea grease with high fretting resistance
- Fluorocarbon rubber seals with excellent high-temperature endurance and seal lips resistant to muddy water



GEN3 Hub Bearing with Brake Rotor

GEN3 hub bearing and brake rotor are integrated into a single unit, resulting in drastically reduced rotor runout.



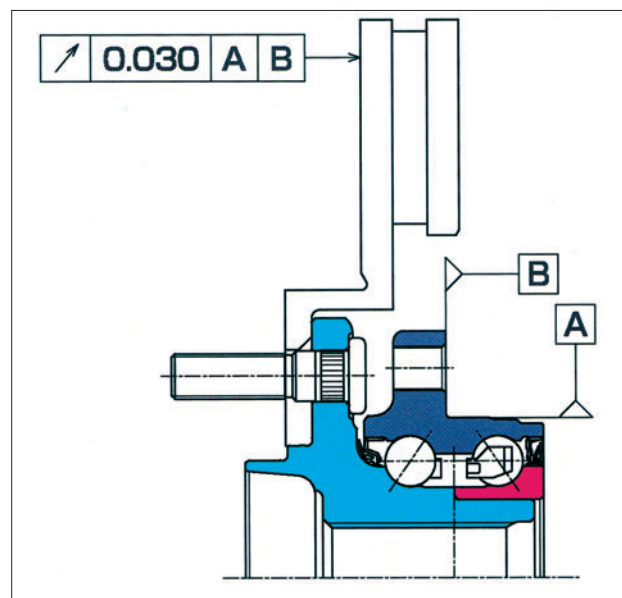
Features

- Not as susceptible to brake shudder
- Decreases drag and reduces fuel consumption
- Eliminates the need for matching brake rotor to hub

Applications

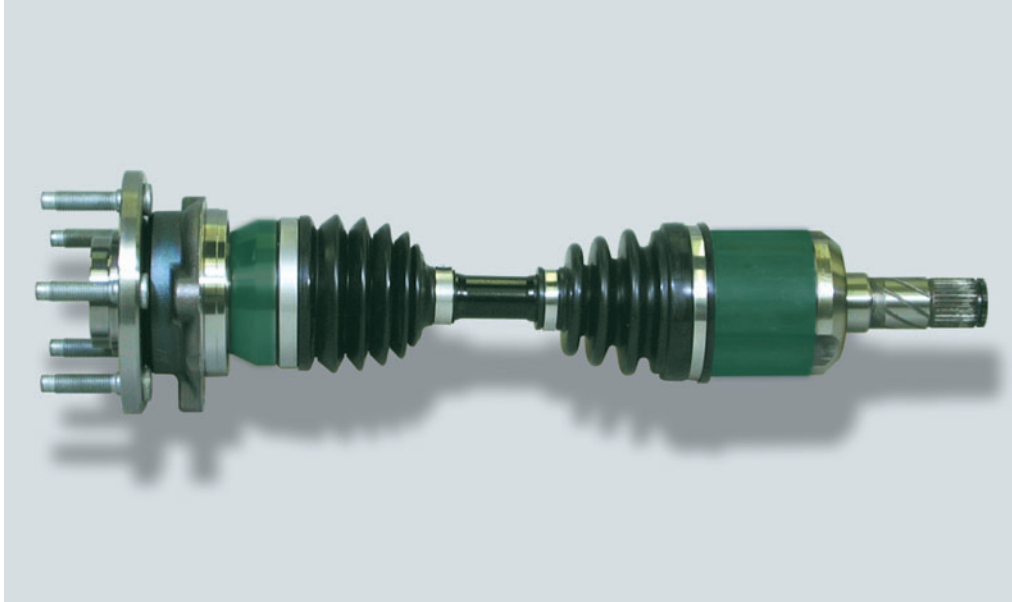
- Axle unit for passenger cars

Structure



GEN4 Hub Joint

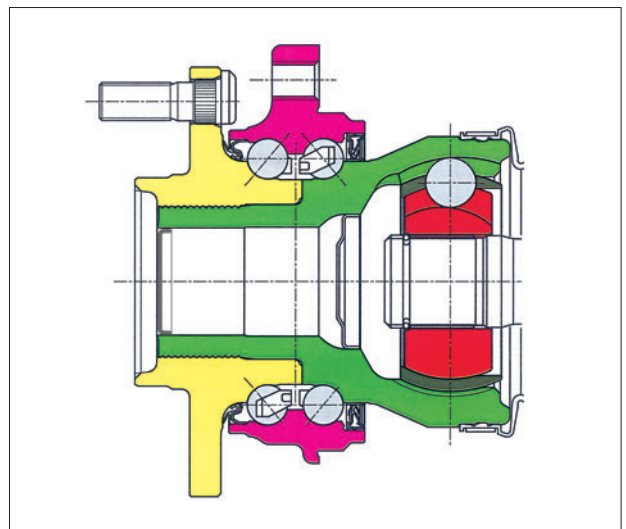
The third generation hub bearing is integrated with the new "E Series" constant-velocity joint, resulting in a compact, lightweight design.



Features

- High efficiency and low heat generation**
 Adoption of the new "E Series" constant-velocity joint improves transmitted torque by 30% during power conveyance. Heat generation has also been reduced by 20°C compared to the conventional type.
- Smaller axial dimension**
 Integration of the new constant-velocity joint and bearing reduces the distance between the flange and CVJ center by 20% or more.
- Lightweight**
 Integration of the CVJ and bearing, adoption of a hollow joint shaft, and use of the new CVJ bearing tightening method reduces the weight by 10% or more.

Structure



ECO series

High Efficiency Compact Constant Velocity Joints - E Series

This E series constant velocity joint provides high levels of functionality and environmental solutions by offering reduced weight, compactness, and high transmission efficiency.

Fixed type



EBJ ($\theta = 47^\circ$)



EUJ ($\theta = 50^\circ$)

Plunging type



EDJ



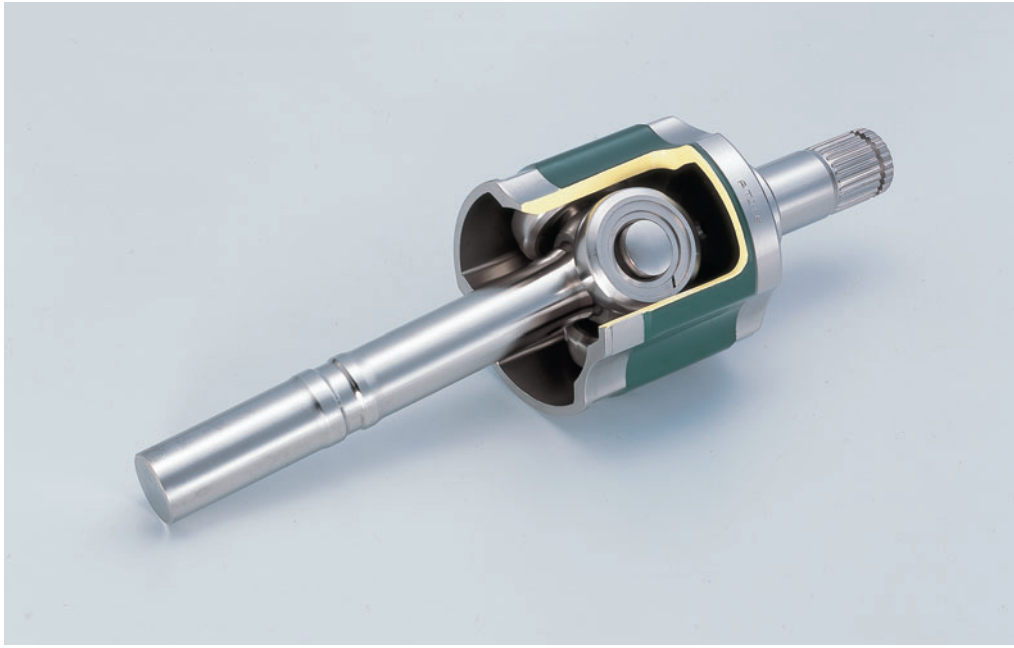
ETJ

Comparison with NTN's conventional CVJ product

	EBJ	EUJ	EDJ	ETJ
Weight (%)	-15	-15	-10	-12
Outer diameter (%)	-7	-7	-4	-8
Temperature rise (°C)	-20	-20	-20	—

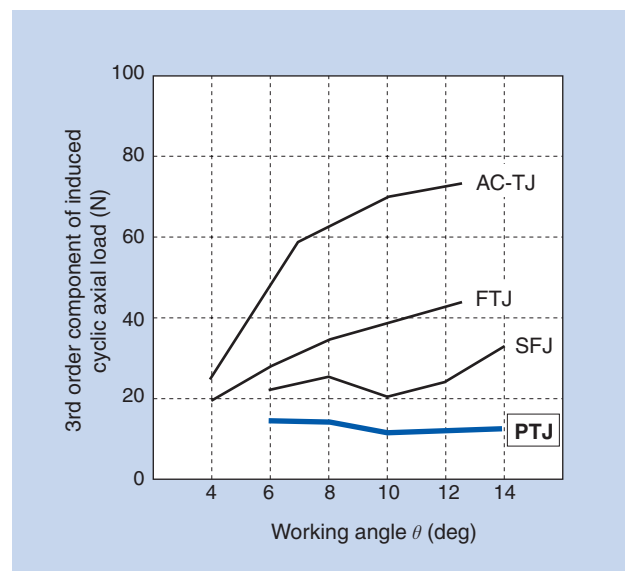
PTJ (Super-Shudderless Constant Velocity Joints)

New plunging type constant velocity joints with low, constant vibration.



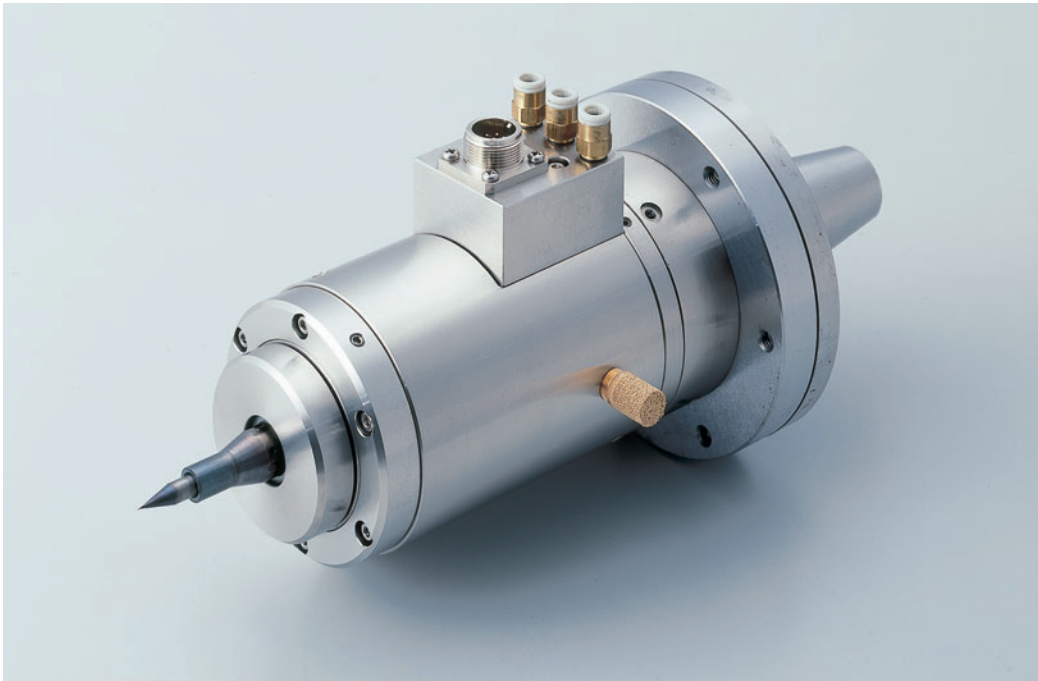
Features

- Minimized vibration for drive shafts.
- Constant induced cyclic axial load not related to the working angle.
- 50% lower induced cyclic axial load in comparison with SFJ.
- Identical outer diameter to SFJ



Super High Speed AT Spindle

Aero-static bearing spindle that can be attached to the machining center main spindles



Features

- Can be attached to the machining center spindles (special machine tools are not needed).
- Use of aero-static bearings deliver super-high speeds up to 150,000 min⁻¹ with high rotational accuracy.
- Use of a shaft-integrated shrink fit chuck enables high-accuracy and high-stiffness chucking.
- Low vibration, low noise level, and long life

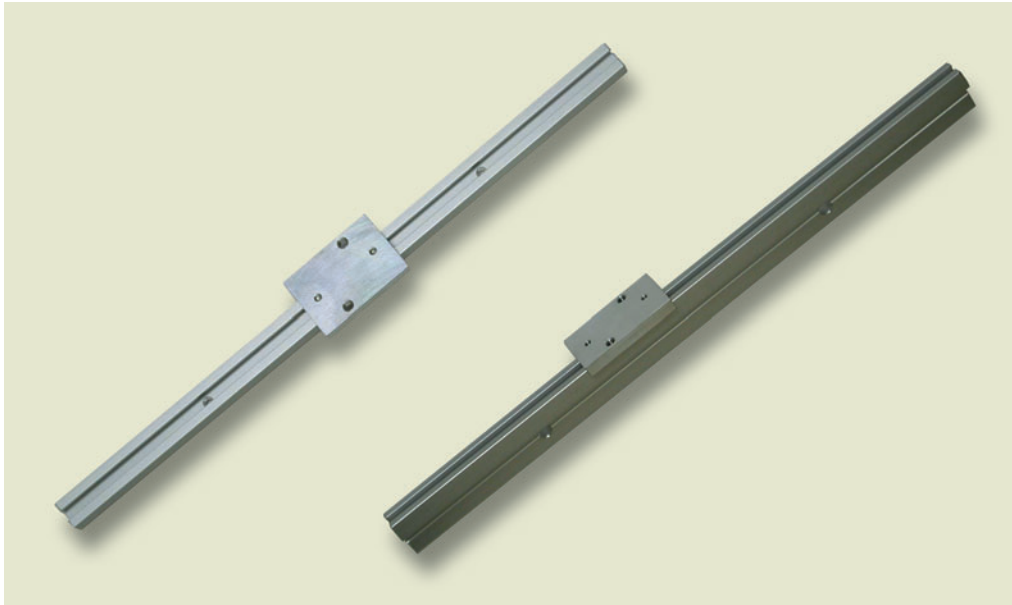
Specifications

Maximum speed	150,000 min ⁻¹	Motor	Rated Power 0.6kW
Load capacity	Axial : 20 N		Three-phase induction motor : 200V AC
	Radial : 40 N	Applicable tool diameter	Water-cooled : 1 to 2 L/min
Static stiffness	Axial : 1.0 N/μm	Tool chucking method	φ 1mm or smaller
	Radial : 1.8 N/μm	Supply air pressure	Shaft-integrated shrink fit chuck (φ 6)
Spindle weight	5 kg (excluding mounting shank)	Air consumption	0.49 MPa
			100 L/min (A.N.R.)

* The radial load capacity and static stiffness are measured at a position 14mm from the spindle end.

BEAREE Slide Guide

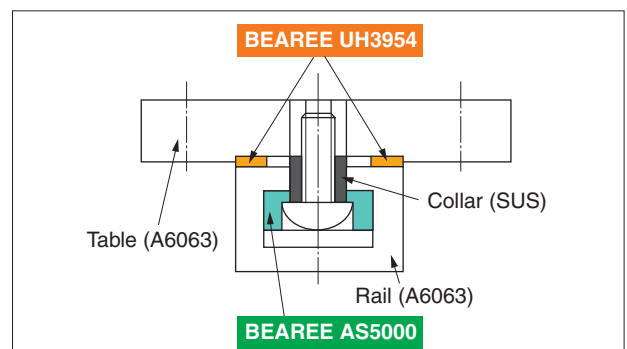
Lightweight and compact linear guide with optimal utilization of BEAREE material.



Features

- Low friction at loads up to 50N
- Lighter (approx. 1/3) and less expensive than the conventional linear guide with balls
- Allows custom design of various shapes

Structure



Friction data (Reciprocating testing device)

