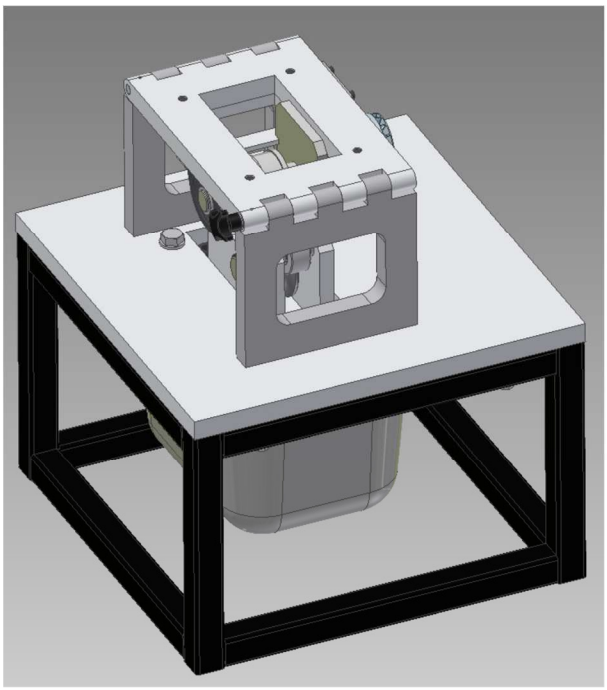
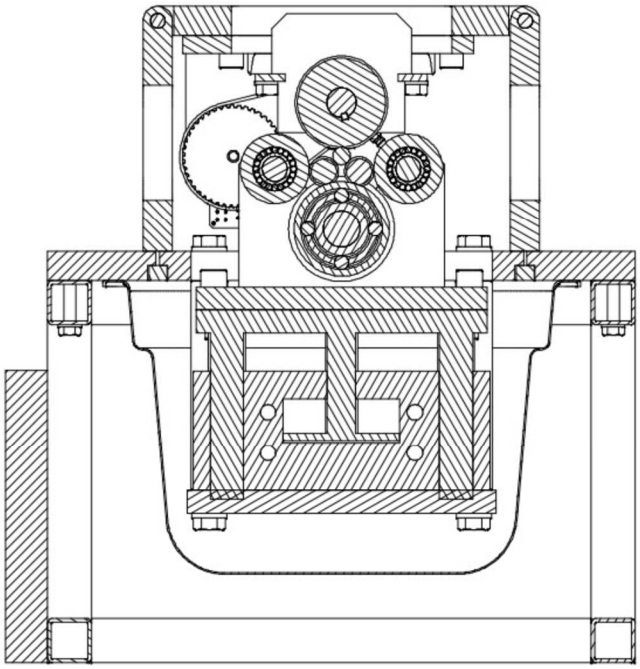
RCF 8 - TWO BALL ON ROD ROLLING CONTACT FATIGUE





Description

This device appears as Device Number 211 in the ASLE Friction and Wear devices book and was originally developed by NTN in the 1960s.

The RCF 8 is designed for evaluating rolling contact fatigue (RCF) performance under high-speed and high-load conditions. It features a 12 mm rod specimen loaded against a 60 mm motor-driven roller using two 20 mm diameter balls, which are supported and guided by profiled rollers. A pneumatic actuator applies up to 4 kN of load, generating contact pressures up to 6 GPa.

With a 5:1 drive-to-test roller ratio, the test roller can reach 30,000 rpm, enabling rapid fatigue testing for high-throughput data collection. A compact servo motor ensures precise speed control, while the touch-screen interface allows for easy operation with minimal training. Designed for bench mounting, the rig is space-efficient and ideal for fatigue life assessments of bearing steels.

Features

- Wide Speed Range: 100 – 30,000 rpm
- High Load Capacity: Up to 4 kN
- User-Friendly: Simple touch-screen operation
- Compact Design: Bench-top mounted for space efficiency
- Cost-Effective: Reliable RCF testing at an affordable cost

The only measured parameter is vibration. Tests run for a set duration, cycle count, or until specimen failure, detected by a vibration sensor on the test assembly.

Order As:

RCF 8

Technical Specifications

Test Geometry:	Two ball on rod
Size of Test Balls:	20 mm diameter
Rod Specimen:	12 mm diameter
Driving Roller:	60 mm diameter
Load Range:	100 - 4,000 N
Loading Method:	Pneumatic
Load Control:	Precision pressure regulator
Rotational Speed:	100 - 30,000 rpm
Temperature:	Ambient
Motor:	0.5 kW servo motor
Control:	Touch-screen user interface

Controlled Parameters

Rotational Speed
Load
Test Duration/Cycles

Measured Parameters

Rotational Speed
Load
Test Duration/Cycles
Vibration Level

Services

Electricity:	220/240V, single phase, 50 Hz, 1 kW
Clean, dry air:	4 cfm at 8 bar (120 psi)