



## The Falex Four Ball Wear Test Machine



The Falex Four Ball Wear Test Machine is used to determine the relative wear-preventing properties of lubricating fluids and greases in sliding and rolling applications. Lubricants are compared using the average size of the scar diameters worn on the three lower clamped balls.

The Falex Four Ball Wear Test Machine is available in **standard or variable drive** configuration.

### Standard Test Methods

ASTM D2266 – D4172 - D5183 - IP 300 - NF E48617 §3

### Four Ball Wear Standard Features

- 1/2 HP motor to drive the rotating ball at 1200 rpm
- Mechanical lever arm applies loads up to 50 kilograms on the ball specimen
- Digital temperature system controls the initial temperature set point (ambient to 200° C) and displays the lubricant temperature during the test
- Digital timer system controls the test duration (1 second to 999 hours)

### Four Ball Wear Variable Drive Features

- 1 HP variable speed motor with a standard operating range of 60 to 3600 rpm
- Optional systems available for rotational speeds up to 10,000 rpm
- Pneumatic load system applies loads up to 180 kilograms on the ball specimen
- Digital friction measurement system displays the test friction force (0 to 1000 grams)
- Digital temperature system controls the initial temperature set point (ambient to 200° C) and displays the lubricant temperature during the test
- Digital timer system controls the test duration (1 second to 999 hours)
- Optional system available for controlling the atmosphere in the test cup.

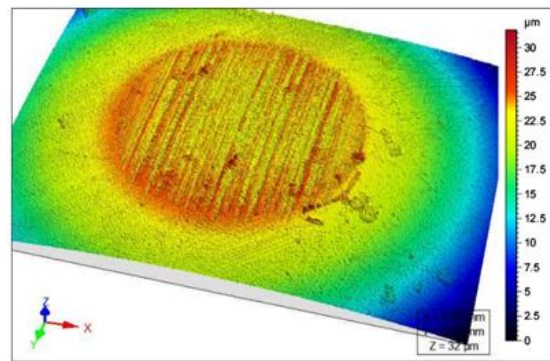
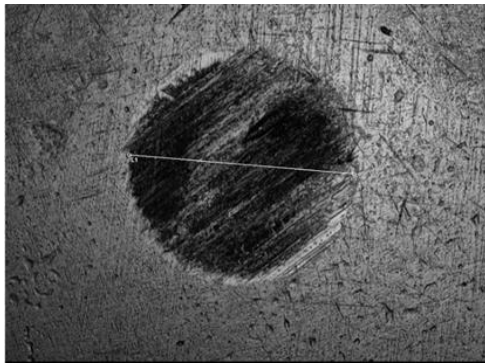


# Falex Tribology Product Datasheet

Quality  
Knowledge  
Partner Solutions

Four Ball Wear Machine Characteristics	
Contact	Three point contact
Motion	Sliding, rolling
Speeds	60-3600 rpm, ½ - 7200 rpm
Loads	5 to 50 kg, 5-180 kg
Temperatures	Ambient to 235° C (450° F)
Environments	Liquid, semi-liquid, dry, atmospheric, environment chamber

## Typical Test Results : optical vs confocal



## Falex Scar Measurement Systems



### High Precision System

Includes binocular microscope with X-Y base and digital display of measurement accurate to 0.001 mm. System includes ball cup stand with single ball holder. Allows reading of ball scar without removal from ball cup.

### Digital System with CCD Camera

Includes a CCD camera and digital display of ball scar and capability of measurement on screen to 0.001 mm. System includes ball cup stand with single ball holder and CCD camera with USB port for recording scar diameters to Falex computerized data acquisition system or host computer. Allows for reading ball scar without removal from ball cup.

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