The Falex Timken Extreme Pressure Test Rig is one of the first commercially manufactured and most widely recognized testers for evaluating the load carrying capacity of extreme pressure lubricants. Originally developed in the 1930’s by The Timken Company, this tester evaluates fluid lubricants and greases containing extreme-pressure additives.

Manufactured by Falex Corporation since 1982, the Falex Timken Test Rig is supplied as a complete system to conduct ASTM Standard Test Methods D2509 and D2782.

Improvements include controlled rate test load and mechanical grease feeder systems, a test fluid recirculation system with temperature control, and an automatic fluid flow interrupter. Optional accessories include a variable speed motor and reservoir cooling system to improve versatility and performance.

**STANDARD TEST METHODS**


<table>
<thead>
<tr>
<th>SPECIFICATIONS AND FEATURES</th>
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<tbody>
<tr>
<td><strong>SPEED AND VELOCITY:</strong></td>
</tr>
<tr>
<td>Variable Speed (850 rpm max), Unidirectional, 2 HP Motor with RPM Indicator.</td>
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<tr>
<td><strong>LOAD:</strong></td>
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<tr>
<td>Dead Weight Load applied through 10 : 1 Lever Arm.</td>
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<tr>
<td><strong>MAXIMUM TEST PRESSURE:</strong></td>
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<tr>
<td>Timken test block pressure (.022 in. scar width): 92,300 psi.</td>
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<tr>
<td><strong>TEMPERATURE CONTROL:</strong></td>
</tr>
<tr>
<td>Digital Temperature Control for Test Fluid Circulating System (80° C max)</td>
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<tr>
<td>Oil Reservoir Jacket for use with optional refrigerated system to cool test oil.</td>
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<tr>
<td><strong>FLUID CIRCULATING SYSTEM:</strong></td>
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<tr>
<td>3 liter reservoir with heater, oil pump and control valve.</td>
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<tr>
<td><strong>AUTOMATIC GREASE FEEDER:</strong></td>
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<tr>
<td>Electro/mechanical System to feed test grease at 45 ± 9 grams per minute.</td>
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<tr>
<td><strong>AUTOMATIC LOADING DEVICE:</strong></td>
</tr>
<tr>
<td>Pneumatic System to lower test weights at 2 to 3 lbs/sec</td>
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<tr>
<td><strong>CABINETRY:</strong></td>
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<tr>
<td>Heavy construction steel with electro/mechanical compartment, weight storage area, accessory drawer, and instrumentation panel.</td>
</tr>
<tr>
<td><strong>WEAR:</strong></td>
</tr>
<tr>
<td>Measurement of scar width at specified load.</td>
</tr>
<tr>
<td><strong>FRICTION:</strong></td>
</tr>
<tr>
<td>Friction Lever System and weights (optional)</td>
</tr>
</tbody>
</table>
002-001-002 FALEX TIMKEN TEST MACHINE
Standard Items include:
Timken Lubricant Test Machine (1750), 220 VAC, 60 Hz
Pneumatic Loading Device (2 to 3 lbs/sec) *Air required*
Load Lever Arm Assembly
Variable Drive Motor with RPM Indicator (850 rpm max)
Temperature Controller (80°C max)
Oil Reservoir Jacket
Grease Feeder (45 ± 9 grams g/min)
Test Weights (114 lbs)
Test Cabinet

002-040-001 INSPECTION AND ALIGNMENT KIT:
For inspection and alignment of Timken Test Rig. Includes:
Dial Indicator (Shaft Run-out and Bearing End-play)
Magnetic Base (For use with Dial Indicator)
Insert Tool (Stud Insert to Shaft Taper)
Lever Level (Knife Edge to Shaft)
Digital RPM Indicator
Nozzle Tool (Nozzle to Shaft and Shaft Wear)
Tool Storage Case

002-101-001 FRICTION LEVER GROUP:
Complete Friction Lever Assembly, including: Friction Lever and Sliding Weight, Friction Lever Block, Stud Insert, and Friction Lever Stop.

LWM-016 CIRCULATION CHILLER:
230V, 50/60 Hz, Working temperature range: -10 to 40° C
*For use with Test Oil Cooling System*
OPTIONS AND ACCESSORIES

100-200-009  HIGH PRECISION SCAR MEASUREMENT SYSTEM:  
Binocular microscope with X-Y base and digital micrometer.  0.001 mm display.

100-200-023  DIGITAL SCAR MEASUREMENT SYSTEM:  
Binocular microscope with CCD camera and Falex SoftWEAR™ for image capture and scar measurement.  0.001 mm display.

002-200-004  TEST WEIGHT SET:  
Calibrated Weight Set for Test Load Application

002-101-001  FRICTION LEVER GROUP:  
Complete Friction Lever Assembly, including: Friction Lever and Sliding Weight, Friction Lever Block, Stud Insert, and Friction Lever Stop.

002-101-002  LOAD LEVER GROUP:  
Complete Load Lever Assembly, including: Load Lever, Load Lever Weight Hanger, Load Lever Spring, and Top and Bottom Load Lever Inserts.

002-102-003  LOAD LEVER WEIGHT HANGER

002-027-002  LOAD LEVER SPRING

002-105-006  FRICTION LEVER BLOCK

002-011-011  STUD INSERT (KNIFE EDGE SUPPORT)

002-015-002  FRICTION LEVER STOP

002-011-006  LOAD LEVER INSERT (KNIFE EDGE) - TOP

002-011-007  LOAD LEVER INSERT (KNIFE EDGE) - BOTTOM

002-011-008  FRICTION LEVER INSERT

002-100-001  BUSHING, TEST SHAFT

002-016-001  TEST RING LOCK-NUT

659-200-070  SPANNER WRENCH FOR TEST RING LOCK-NUT

F-1502-42A  CONTROL VALVE ASSEMBLY

002-007-003  TIMKEN SIZE CRESCENT GUIDE FOR LIQUID OR GREASE

002-028-002  OIL SPLASH GUARD

002-021-004  GREASE SPLASH GUARD

F-1502-43  FLUID THERMAL RESERVOIR

002-105-013  FALEX STANDALONE TIMKEN AIR LOADER

100-200-008  FALEX STANDALONE TIMKEN GREASE FEEDER

002-008-013  GREASE FEEDER TUBE

002-008-014  GREASE FEEDER END CAP (TOP)

F-1502-81  SPANNER WRENCH FOR GREASE FEEDER
**002-560-002 FALEX TIMKEN TEST BLOCK**  
*(formerly F-45349 or F-25001)*  
Conforms to ASTM D 2782 and D 2509  
Box of 10 Blocks  

Carburized Steel, 58 to 62 HRC, four ground test surfaces 0.485 ± 0.002 in. wide and 0.750 ± 0.016 in. long, 20 to 30 µin.

**002-560-001 FALEX TIMKEN TEST RING (CUP)**  
*(formerly F-48651 or F-25061)*  
Conforms to ASTM D 2782 and D 2509  
Box of 25 Rings  

Carburized Steel, 58 to 62 HRC, axial surface roughness 20 to 30 µin. 0.514 ± 0.002 in. wide and 1.938 + 0.001, - 0.005 in. diameter, maximum radial run-out of 0.0005 in.

Falex test consumable pieces are available in a wide range of materials, surface finishes, and hardness, or from user supplied material. Please contact your Falex Representative for price and availability.
For All of Your Lubricant and Materials Testing

Lubricants
- Pin and Vee Block
- Block-on-Ring
- Timken EP
- Tapping Torque
- Panel Coker
- High Temperature/High Speed Bearing
- Four Ball Wear
- Four Ball EP
- High Temperature Wheel Bearing
- Thermal Oxidation Stability (L60-1)
- Fretting Wear
- Hydrolytic Stability
- Grease Corrosion Test
- Isothermal Oxidation
- Hydraulic Fluid Pump Stand (Vickers and Conestoga)

Materials
- Journal Bearing
- Multi-Specimen
- Crossed Cylinders
- Low Velocity Friction Apparatus
- Pin on Disk
- Coefficient of Stopion
- Magnetic Media and Paper Wear
- Life Performance Face Clutch System
- Thin Coating Wear (Electrical Contacts)
- Dual Drive Rolling Contact Fatigue
- High Speed Bearing/Mechanical Clutch

Abrasion and Erosion
- Dry Sand/Rubber Wheel
- Air Jet Erosion
- Miller Number Slurry

Fuels and Solvents
- Ball on Three Disk Fuel Lubricity
- Thin Film Evaporator
- Fuel Deposit Simulator