

Plint TE77: A specimen is loaded and then reciprocally slid against a fixed counter body. A number of geometries can be accommodated by using a range of simple clamping fixtures: ball-on-plate, pin-on-plate, and cylinder-on-plate. The oscillating motion is provided by a controlled variable speed motor through an eccentric power transmission for the adjustment of the stroke. The horizontal force, which is measured by a piezo-electric transducer, characterizes the friction coefficient μ . The drop in height of the moving specimen relative to the fixed specimen can be recorded continuously. This measurement gives an indication of the combined wear of both surfaces and is a useful tool in identifying wear transitions. The tribometer can be surrounded by a box, in which temperature and humidity can be regulated by means of an external climate chamber.

Plate-on-plate clutch tester: A newly developed test-rig will allow a full friction plate to be rubbed against a full separator plate. The normal force is applied by a hydraulic piston (max. 20 kN), while the separator plate is driven either by a flywheel or a hydraulic motor (max 200 Nm). This allows to simulate both engagement (flywheel) and continuous slip (hydraulic motor) of the wet friction clutch plates with this test-rig. A torsionally weak element (torsion spring) allows to vary the torsional stiffness of the connection between the friction plate and the fixed frame. The rotation angle of the torsion spring will be measured with an optical laser-interferometrical system, to determine the coefficient of friction during oscillational behaviour of the clutch plates

TEST RIG CHARACTERISTICS

Property	Plint TE77	Plate on plate clutch tester
Geometry		
Ball-on-plate	✓	
Pin-on-Plate	✓	
Cylinder-on-plate	✓	
Normal load	10 N to 250 N	
Stroke length	0.1 mm to 15 mm	
Reciprocating sliding frequency	2.5 Hz to 60 Hz	
Contact surface heating	20 °C to 600 °C	
Controlled environment	Temperature: 10 °C to 40 °C Relative humidity: 20% to 80%	