

SSBTR: The Small-Scale Bearing Test Rig (SSBTR) is a modified pin / block-on-ring tribometer. Both conformal and non-conformal contact can be tested in the SSBTR. Configurations such as block-on ring, pin on ring, and ball on ring can be tested in the wear tester. The constant and a variable load can be established using a combination of pneumatics and lever mechanism. The wear can be measured by means of displacement sensor (LVDT). Different types of metals ranging from soft polymers to hard metals can be tested. In regard to the online-measurements, variables such as material damage, friction torque, bulk temperature, normal force, etc can be measured in the current set-up. The testrig uses NI DaQ for controlling the test variables and for online measurements.



TEST RIG CHARACTERISTICS

Property	SSBTR
Geometry	
Pin-on-ring	✓
Block-on-ring	✓
Ball-on-ring	✓
Pin-on-abrasive wheel	✓
Contact dimensions depending on the pin	Point contact, Line contact and conformal contact
Applicable to	Dry and lubricated contact
Torque	Max. 50 Nm
Rotational speed	Max. 110 rpm
Load range	100 N to 4000 N
Rotation of the ring	Linear and reciprocating
Pin specification	Min. Ø 5 mm, max. Ø 10 mm Height: 5-20 mm
Bearing specification	Min. Ø 30 mm, max. Ø 80 mm Thickness: 30 to 70 mm
Ball specification	Min. Ø 5 mm, max. Ø 10 mm
Block specification	Width : 5 to 10 mm Height: 5- 20 mm