

MTS 329 ROAD SIMULATOR

FULL CAR TEST RIG

MTS 329



Six degrees of freedom at vehicle spindle gives control over vertical, lateral, longitudinal, brake torque, camber and steer forces. An additional four actuators can simulate downforce. In floating body mode, all 29 channels deliver accurate full-vehicle stress distribution analysis of manoeuvring events. Fixed body mode, using as many as 25 channels, allows double axle suspension testing, including braking and cornering simulation. Additional features include steering robot, heat application to specified components, four Swift wheel force transducers and an additional 38 recording channels. K&C test combined with highest resolution optical measurement system provides highly accurate results for forces and moments applied at wheel center.

APPLICATIONS:

- Full-car stress distribution simulation
- Front or rear suspension and sub-system testing, including steering
- Front or rear axle fatigue simulation
- K&C analysis
- Elasto-kinematic analysis of components, such as suspension
- Component and assembly proofing for various purposes
- Optical measurement studies of suspension or other component deformation

SPECIFICATIONS

Channels		29
Operating Frequency		50 Hz
VERTICAL INPUT (FRONT)	Dynamic Spindle Force/Moment	75 kN
	Spindle Displacement	300mm
	Spindle Velocity	6 m/s
VERTICAL INPUT (REAR)	Dynamic Spindle Force/Moment	63 kN
	Spindle Displacement	300mm
	Spindle Velocity	7 m/s
LONGITUDINAL INPUT	Dynamic Spindle Force/Moment (front)	30 kN
	Dynamic Spindle Force/Moment (rear)	22 kN
	Spindle Displacement	300mm
	Spindle Velocity	2.5 m/s
LATERAL INPUT (FRONT)	Dynamic Spindle Force/Moment	30 kN
	Spindle Displacement	200mm
	Spindle Velocity	2.5 m/s
LATERAL INPUT (REAR)	Dynamic Spindle Force/Moment	22 kN
	Spindle Displacement	200mm
	Spindle Velocity	2 m/s
STEER INPUT (FRONT)	Dynamic Spindle Force/Moment	6.9 kNm
	Spindle Displacement	44°
	Spindle Velocity	400°/s
STEER INPUT (REAR)	Dynamic Spindle Force/Moment	3.8 kNm
	Spindle Displacement	16°
	Spindle Velocity	400°/s
CAMBER INPUT	Dynamic Spindle Force/Moment	7kNm
	Spindle Displacement (front)	30°
	Spindle Displacement (rear)	16°
	Spindle Velocity	400°/s
BRAKE/ DRIVE INPUT (FRONT)	Dynamic Spindle Force/Moment	6.2 kNm
	Spindle Displacement	30°
	Spindle Velocity	400°/s
BRAKE/ DRIVE INPUT (REAR)	Dynamic Spindle Force/Moment	7 kNm
	Spindle Displacement	35°
	Spindle Velocity	700°/s
PERFORMANCE	Max. length of Force introduction rod	+/- 300mm (+/- 12 in)
	Max. power on the bar	36 kN (8kip)
	Frequency response	50 Hz
	Vertical positioning of the bar	400mm (15,7 in)
	Oil flow	126 l/ min (33gpm)
	Recommended input air pressure	7 bar (100psi)
MTS RESTRAIN SYSTEM (FRONT AND REAR)	max. displacement restrain rods	±300mm
	max. force restrain rods	36 kN
	max. test frequency	50 Hz