



Model 320 ePost™ Tire-coupled Road Simulators

Highly efficient and reliable electric 4-posters for a full range of test applications

Benefits

- » Highly accurate and repeatable performance
- » Full range of passenger car and truck test applications:
 - Durability
 - Noise, Vibration, and Harshness (NVH)
 - Buzz, Squeak, and Rattle (BSR)
 - Inline Production Quality
- » Reliable, energy-efficient operation
- » Compact, portable designs
- » Low audible noise
- » Clean, streamlined and safe – minimal facility impact
- » Low maintenance requirements

To meet growing industry demands for cleaner, quieter and more economical test systems, MTS offer the Model 320 ePost™ Tire-coupled Road Simulator, a highly efficient and reliable electric 4-poster engineered to deliver a complete range of full-vehicle testing capabilities.

Deployed by OEMs around the world, ePost systems employ four electric actuators to replicate road profiles and obstacles, providing test engineers with a highly efficient means for subjecting full-vehicles to real-world conditions in controlled laboratory environments.

ePost systems combine proprietary MTS linear electric actuators, versatile FlexTest® controllers and industry-proven MTS application software to satisfy a full range

of passenger car and truck test applications, including Durability; Noise, Vibration and Harshness (NVH); Buzz, Squeak and Rattle (BSR); and Inline Production Quality.

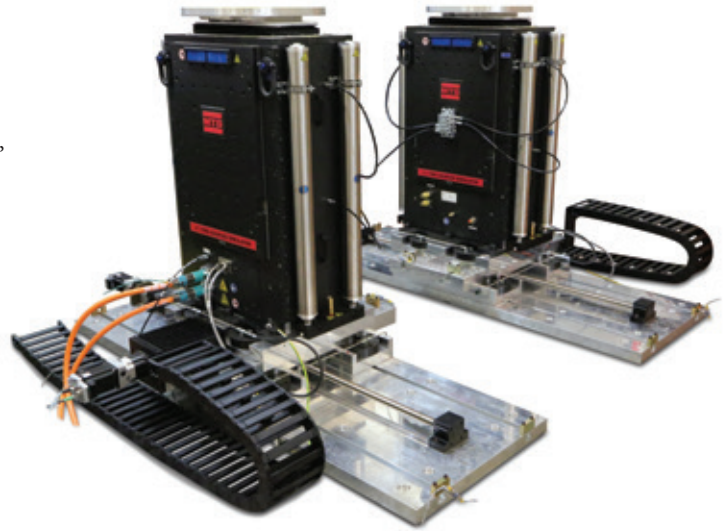
ePost systems employ new proprietary MTS-designed ironcore actuators to achieve a more streamlined testing environment with significantly reduced operating and maintenance costs relative to hydraulic simulators.

Electric ePost systems also enable a cleaner and more eco-friendly testing environment, and are quiet enough for effective BSR and NVH testing. ePost systems can also be integrated within an environmental chamber for testing at temperatures ranging from -40°F to 160°F.

Accurate & Reliable Electric Actuation

Model 320 ePost systems feature a patented hybrid actuation design that integrates linear electric motors, which deliver dynamic force and motion, with pneumatic cylinders that provide static support. This scheme enables the ePost to perform a full range of test applications, including durability, inline production quality, BSR, and NVH with significantly reduced operating and maintenance costs relative to hydraulic simulators.

Proprietary MTS ironcore linear electric actuators feature an iron-backed rare-earth magnet assembly that glides through a fixed steel assembly. These liquid-cooled actuators exhibit relatively high peak forces and are well-suited for rigorous durability applications. Additionally, MTS engineers have developed an optimized ironcore motor design that effectively resolves the “cogging” phenomena endemic to the technology, greatly expanding its application range.



Compact, Streamlined System Design

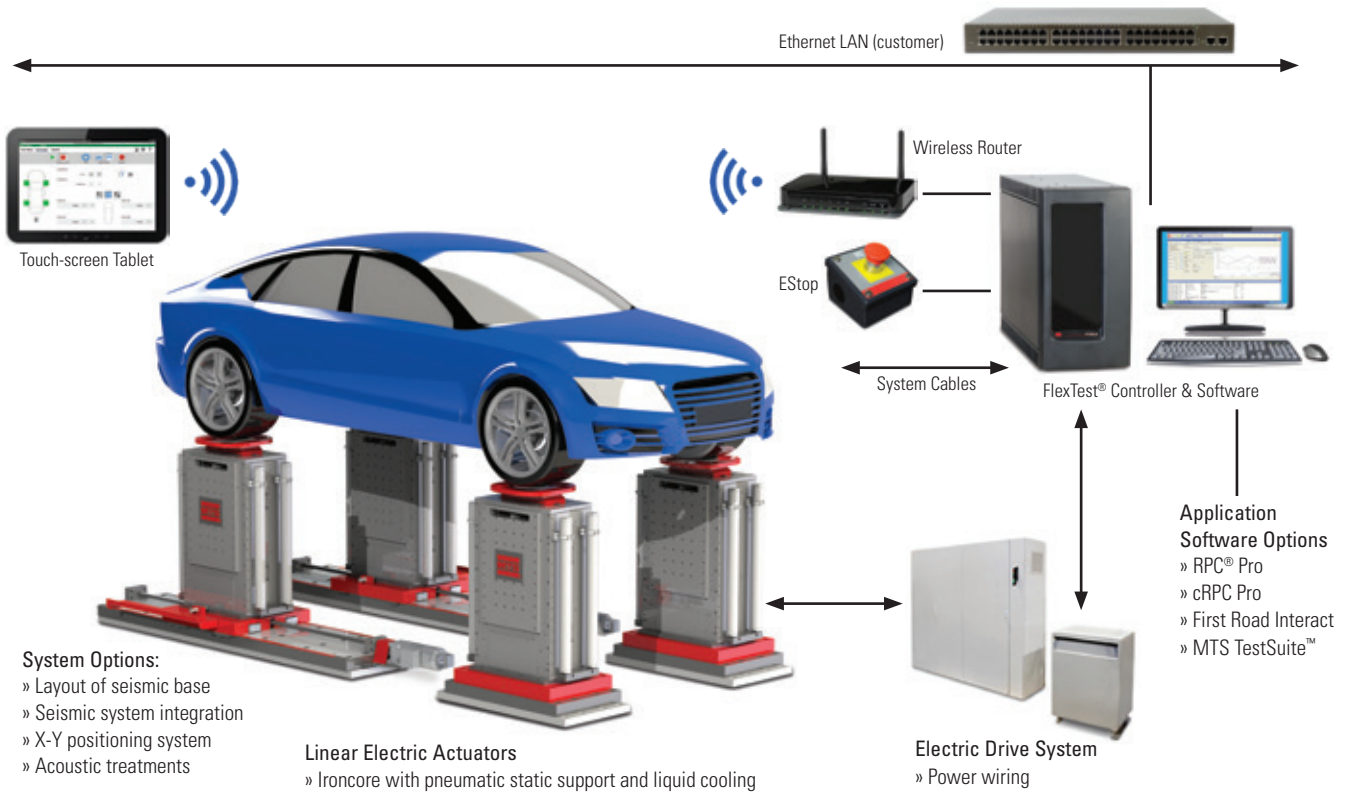
Model 320 ePost Road Simulators are powered by an electric drive system, rather than a hydraulic power unit (HPU), which delivers current on-demand for

significantly higher operating efficiency. Additionally, the elimination of hydraulic distribution requirements (pumps, fluid,

hoses, accumulators) allows for a cleaner, safer more streamlined test environment and reduced maintenance needs.



System Configuration

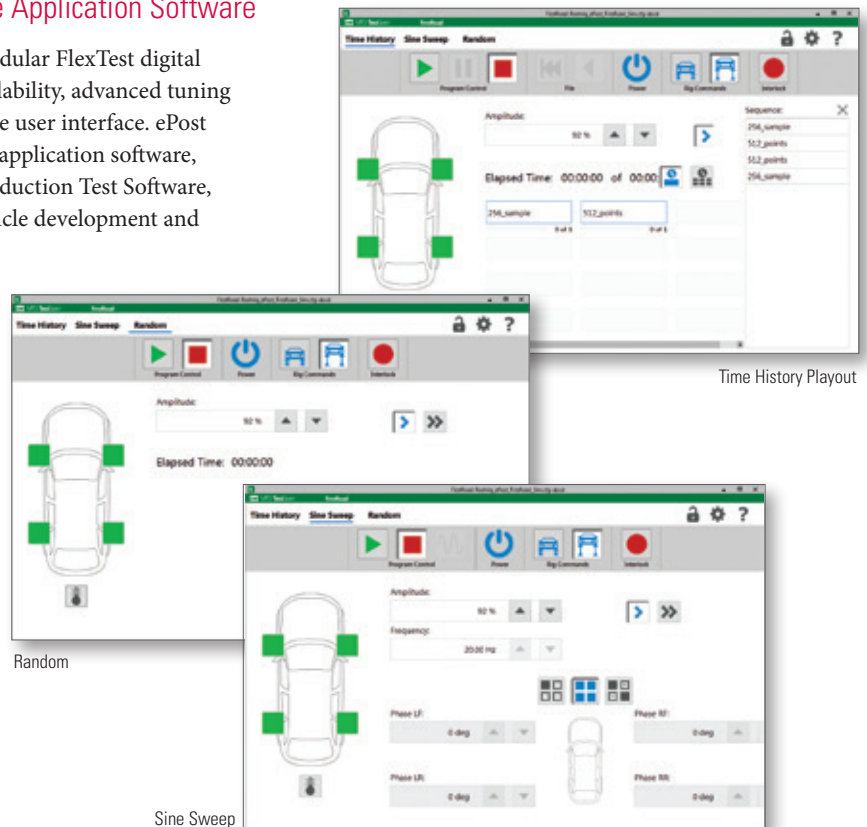


Versatile MTS Controls & Easy-to-use Application Software

Model 320 ePost Road Simulators feature modular FlexTest digital controllers, which are renowned for their scalability, advanced tuning and compensation tools and intuitive software user interface. ePost simulators can run a broad selection of MTS application software, including easy-to-use First Road Interact Production Test Software, which is designed to support end-of-line vehicle development and production quality testing.

First Road Interact Software benefits:

- » Intuitive, easy-to-use interface
- » Flexible program inputs with 3 predefined user selectable test interfaces
 - Sine Sweep
 - Random
 - Time History Playout
- » Includes portable touch-screen tablet for test control within and around test vehicle



Model 320 ePost Specifications

MTS ePost Specification ₁	Units	320e.050
Peak Dynamic Force <i>(peak dynamic force electric only with cooling)</i>	kN lbf	42 9400
Continuous Dynamic Force <i>(electric motor only with cooling)</i>	kN lbf	16 3600
Continuous Static Force <i>(pneumatic only)</i>	kN lbf	10 2250
Peak Combined Force <i>(peak dynamic force and continuous pneumatic force)</i>	kN lbf	52 11700
Continuous Combined Force <i>(continuous dynamic force and continuous static force)</i>	kN lbf	26 5875
Velocity	m/sec in/sec	4 157
Stroke	mm in	250 10
Actuator Height with Standard Wheelpan	cm in	120.65 47.5
Maximum Acceleration₂	g	30
Digital Encoder Accuracy	μ	.005
Noise Level – Typical	dbA	<55
Emergency Stop Method	MTS SoftStop or HardStop Shutdown	
Wheelbase Adjust	Electromagnetic Clamping (60 TONS) Electromechanical Positioning	
Bearing Material	Air Bearings - Maintenance Free	
Facility Requirements	V A	480 400 @ 460V
Air Supply₃	PSI BAR CFM	100 7 60
Recommended Reaction Mass	t	200

1. Specifications subject to change.

2. 40 kg unsprung mass used for specifications.

3. Air supply system must be adequately sized for continuous operation providing above specified flow at a pressure consistently above 5.2 bar (75 psi).

Note: Higher pneumatic and combined force available on request.



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