

Highly repeatable, perfectly accurate
Steering robots



AB Dynamics has the widest range of steering robots in the world; whatever your requirements, we can offer you the best solution.

Our steering robots apply accurate, controlled inputs to a vehicle's steering system as required for a wide range of tests including transient handling behaviour, ADAS testing, legislative tests (fishhook, sine-dwell etc.), durability testing, misuse testing and steering system evaluation. They enable a wide range of steering inputs to be applied with high precision and repeatability, allowing high quality data to be gathered quickly.



Standard features

- Integrated transducers for steering wheel angle and torque (some models)
- Typical installation time of 30 minutes
- Compatible with RC software for fully programmable and easy to use control
- Standard test profiles to meet a range of open-loop ISO and regulatory tests
- Suitable for NHTSA, NCAP and other safety testing
- Some robots suitable for sine-dwell/fishhook testing
- Vehicle can be driven normally when robot disabled
- Integrated electronics package powered from vehicle's 12 or 24V supply
- Data capture (robot channels, analogue input, motion pack data, CAN and more)
- CAN I/O (optional)
- Inputs and outputs for test and data capture triggering functions
- Upgrades available for simultaneous control of steering, braking and accelerator functions

The steering robot range

Since our first steering robot was launched in 1997, it has become an essential tool in many different types of vehicle testing. We now offer a range of steering robots to suit a variety of test requirements.

	SR 15	SR 15 Orbit™	SR 35	SR 60	SR 60 Orbit™	SR 60 Torus™	Halo™	SR 150
Direct drive motor			•	•		•	•	•
Hollow centre	•	•			•	•	•	
Suitable for sine-dwell/fishhook				•	•	•	•	
Adaptable for truck use	•		•	•		•	•	•
Suitable for durability/misuse testing	•		•	•		•	•	•
Adaptable for SPT plug-in			•	•		•	•	
Max torque (short duration)*	20Nm @ 200°/s	20Nm @ 200°/s	43Nm @ 850°/s	70Nm @ 580°/s	70Nm @ 580°/s	85Nm @ 500°/s	90Nm @ 500°/s	160Nm @ 500°/s
Rated torque	15Nm @ 500°/s	15Nm @ 500°/s	35Nm @ 1300°/s	60Nm @ 1300°/s	60Nm @ 1300°/s	60Nm @ 1500°/s	75Nm @ 1500°/s	150Nm @ 550°/s
Max velocity	1000°/s @ <10Nm	1000°/s @ <10Nm	2500°/s @ <5Nm	2500°/s @ <15Nm	2000°/s @ <10Nm	2500°/s @ <10Nm	2500°/s @ <10Nm	1500°/s @ <25Nm
Motor mass	5.6kg	5kg	9kg	12.5kg	8kg	10.5kg	9kg	19kg
Motor bearing friction	<1.5Nm	<4.0Nm	<0.5Nm	<0.5Nm	<4.0Nm	<1.0Nm	<1.0Nm	<1.0Nm
Motor plus steering wheel** inertia	0.0640 kgm ²	0.0520 kgm ²	0.0288 kgm ²	0.0387 kgm ²	0.1500 kgm ²	0.1265 kgm ²	0.1156 kgm ²	0.1000 kgm ²
System angle accuracy	Typically better than ±0.2, depending on reaction torque and proper installation of the torque reaction system.							

*Holding times for rated and maximum torque levels are limited by motor thermal capacity (contact us for details).

**Steering wheels are used on the SR 35/60/150/Torus/Halo models

Software

The steering robot's user interface software, compatible with standard Windows PCs, allows drivers to define and execute tests easily. These tests include standard options like sine, sine sweep, step, and ramp inputs, as well as specialised tests such as sine-dwell, roll stability, catch-up, and flick. Additionally, the robot can record test profiles from direct driver input or play them back from an ASCII file, and it can respond to external input signals.



About AB Dynamics

AB Dynamics is a leading global provider of automotive test and verification solutions that facilitate the development of vehicles that are safer, more efficient and sustainable. As part of the AB Dynamics Group of companies we enable customers to develop and test in virtual environments, validate on the track and then evaluate vehicles on public roads.

For more information:
www.abdynamics.com
info@abdynamics.com

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