

Highly repeatable, perfectly accurate

Steering robots



AB Dynamics offers the world's most comprehensive range of steering robots, delivering a solution for virtually any vehicle test application.

Designed for precision and repeatability, our steering robots apply accurate, controlled steering inputs for applications including vehicle dynamics, ADAS, durability, misuse and legislative testing. Whether evaluating transient handling performance, executing demanding manoeuvres such as fishhook and sine-dwell tests, or characterising steering behaviour, they enable engineers to acquire high-quality, repeatable data quickly and reliably.



Integrated transducers for steering wheel angle and torque (some models)



Typical installation time less than 30 minutes



Fully programmable and easy-to-use software interface



Suitable for vehicle dynamics tests specified by FMVSS 126, ISO 7401, NHTSA and UNECE



Vehicle can be driven normally when robot is disabled



Data capture through robot channels, analogue input, motion pack data and optional CAN



Capable of centimeter accurate path-following with optional software module and suitable motion pack



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	✓		✓	✓		✓	✓	✓
Max torque (short duration)* (Nm)	20	20	43	70	70	85	90	160
Rated torque	15 Nm at 500°/s	15 Nm at 500°/s	35 Nm at 1300°/s	60 Nm at 1300°/s	60 Nm at 1300°/s	60 Nm at 1500°/s	75 Nm at 1500°/s	150 Nm at 550°/s
Max velocity (°/s)	1000	1000	2500	2500	2000	2500	2500	1500
Motor mass (kg)	5.6	5	9	12.5	8	10.5	9	19
Motor friction** (Nm)	1.5	4.0	0.5	0.5	4.0	0.9	0.9	1.5
Motor assembly inertia (kgm ²)	0.10	0.076	0.029	0.039	0.15	0.13	0.12	0.10
System angle accuracy	Typically better than ±0.2, depending on installation of the torque reaction system							

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

**Measured under controlled laboratory conditions

Software

The steering robot's user interface software, compatible with standard Windows PCs, allows the user 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:
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