

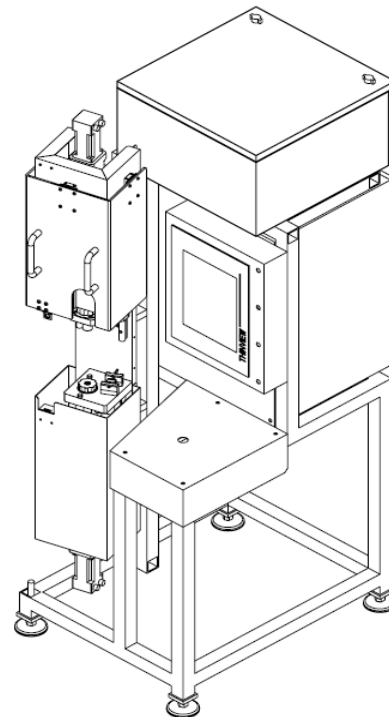
## DESCRIPTION

The Electric Power Steering Module End-of-Line Test Stand is designed to perform validation and functionality testing on various types of electric power steering modules. This highly configurable test bench is intended for programming, calibration, and final verification of every module that comes off the production line, under a variety of test conditions outlined by custom OEM specifications.

The input side of the test bench is driven by a low speed servo motor, with precise position control. An inline torque sensor is included for accurate torque feedback, as well as a torque-limiting clutch for component safety. The load configuration has another servo motor that is mated to a high ratio gearbox. Another inline torque sensor and torque-limiting clutch are part of the load driveline. The load side shaft of the EPS module under test is manually mounted on a custom-designed fixture. The drive side of the EPS module is then automatically engaged via a pneumatically controlled linear slide. A special connector is used to supply power to the unit and establish data and control communications via CAN Bus.

The test stand is managed by a PC-based control system, with an industrial touch screen monitor and keyboard interface. The integrated data acquisition system along with the test data control and management software are responsible for control, acquisition, monitoring and logging of all analog and digital input and output channels.

Test Stand Specifications	
TEST BENCH	
Footprint (L x W x H)	1.2m(48") x 1.0m(40") x 2.2m(86")
Main Power	240VAC, 1Ø, 60Hz, 60A
DRIVE MOTOR	
Power	0.75kW (1HP) DC Servo Motor
LOAD MOTOR	
Power	1.5kW (2HP) DC Servo Motor
DRIVE TORQUE MEASUREMENT	
Type	Rotary Contactless
Range	0 - 50N·m (37ft-lbs)
Accuracy	±0.1% of Full-Scale Range
LOAD TORQUE MEASUREMENT	
Type	Rotary Contactless
Range	0 - 100N·m (74ft-lbs)
Accuracy	±0.1% of Full-Scale Range



## DISCLAIMER

Specifications presented in this datasheet are for informational purposes only.

All specifications can be customized to specific customer requests.

Please contact ATA for additional information or questions regarding your application.

## OPTIONS SELECTED

- ✓ Automatic part engagement via pneumatic linear slides and splined couplings
- ✓ PID control of load torque
- ✓ Full manual control of all hardware features through custom software interface
- ✓ Automated results generation through pre-written test scripts

## FEATURES

- ✓ Accurate position and speed control of the EPS module input shaft
- ✓ High-frequency response of torque feedback
- ✓ Safety clutch to protect against over-torque
- ✓ Anodized aluminum extrusion profiles and polycarbonate plastic for operator safety
- ✓ Vibration-isolating foot mounts
- ✓ Small dimensional footprint

## RESULTS OUTPUT

- ✓ Static and dynamic test results for EPS modules, defined by custom OEM specifications
- ✓ Measurement of physical parameters:
  - Position (Angle)
  - Speed
  - Torque
  - Voltage
  - Current
- ✓ Prewritten test procedure and results generation for a standardized OEM test:
  - Module Start-Up Sequence
  - Calibration
  - Maximum Torque
  - Back-Driving Torque
  - Steering Limit Protection
  - Maximum PWM Current Draw
  - Tuning
  - Dead-Band
  - Directional Change Effort
  - Steering Bumpiness
  - Self-Return
  - Factory Settings Program
  - Save Data

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