

ETS Solutions offers affordable, high quality vibration test equipment. Utilizing extensive and innovative technical expertise ETS delivers a reliable long term solution to meet your test requirements. All systems comply with the European CE standards with full testing and certification from TUV-SUD Product Service GmbH.

About ETS Solutions

ETS Solutions was formed in 2002 by a team of engineers with a variety of professional experiences in the vibration testing industry. Our success is based on providing affordable systems with the latest technology and providing responsive timely service. Our talented engineering team works continuously on development of new products and improvement of the existing product range. This has enabled ETS Solutions to deliver products in a shorter time period without compromising quality or cost. We have been successful offering products that exceed the specifications of other vibration equipment manufacturers.

Now a major force in the industry, ETS Solutions offers a broad range of vibration testing equipment to a global base of customers. Installations in more than 30 countries attest to our global position. Give us the opportunity to offer your organization; reasonably priced systems, high performance, long term reliability and outstanding service. **Let us exceed your expectations today!**



Customer Driven Innovation

Multi-Axis Systems NEW

- Outstanding Response
- Meets MIL-STD-810G
- Reduce Test Time
- Patented Hydro-Static Bearings



Electro-dynamic Shakers and Unibase Systems with Slip Tables



660 lbf (300 kgf)
MPA101-L323A

Water-cooled Series designed to test some of the world's most complex applications, including satellites, avionics, combined space simulation, military electronics and hazardous materials. Used worldwide in clean room environments and can be certified to federal standard 209 Class 100000.

- Specimen payload up to 11,000 lb (5,000 kg)
- Armature diameter: 31.5 in (800 mm)
- Servo controlled operation up to 3 in (75 mm) continuous displacement
- Available as a Unibase slip table with GT and BT type bearings. See Slip Table page for full details
- Rugged trunnion design with air isolation with dual support bearing guidance
- Usable frequency range from 5Hz to 2,000Hz

SHAKER OPTIONS & ACCESSORIES

We understand that test requirements constantly change and equipment must be versatile in its application. That is why the engineers at ETS Solutions offer such a wide choice of options and accessories. We are here to help and respond to a customers needs.

- Load attachment inserts with Metric and American threads
- PCD insert patterns to match existing jigs and fixtures
- Armature frames in Magnesium or Aluminium
- Motorized Shaker Body Rotation System
- Air Isolation Mounts
- Air Glide Casters
- Unibase Slip Tables
- Standalone Slip Tables
- Slip Tables to any Size and Shape
- Additional BT Series journal bearings
- Thermal Barriers for use with Climatic Chambers
- Slip Plates in Magnesium or Aluminium
- Gun Drilled Slip Plates for low temperature applications
- Head Expanders and Vertical Support Platforms
- Customized Fixtures -Cube, L type and T type
- Auxiliary Interlock Unit for additional safety Interlock
- Remote Control Panel via RS485 data communication

MPA Series Digital Switching Power Amplifiers



49kVA to 84kVA
MPA700 Series

The ETS Solutions MPA series amplifier family is a wide frequency band digital switching (Class D) Power Amplifier designed with latest state-of-the-art technology. A number of built-in features in the amplifier allow vibration testing to be performed with ease. User friendly operation and an interactive microprocessor logic control system ensures the MPA amplifier delivers full performance and is compatible with any make of electro-dynamic shaker. The MPA400 series amplifier is matched to the mk1 and mk2, M series shaker.

Logic Control Unit

Managed by high-speed microprocessor logic unit, the intelligence logic control system assures high output power with maximum safety protection. High switching frequency delivers low distortion with full power output over a broad frequency band.

Optional Accessories

Variable Field Power Supply. Auxiliary Interlock Unit (AIU) for additional safety interlock I/O points. Remote Control Panel via RS485 communication with full system control at a distance of 1,600 ft (500 m).



GT Series Slip Tables 900 to 1200mm

ETS Solutions slip tables are designed to provide the optimum test platform for horizontal testing with any shaker combination. Two types of slip table are available to the user; a **Unibase concept** provides a structural steel body to align the shaker and table on a rigid platform, while a standalone slip table design allows the feasibility of any vertical shaker from ETS or other manufacturers to couple with the slip table assembly.

All slip tables are designed with a precision ground natural granite slab with a selection of guidance bearings to meet different applications and budgets. Slip tables can be provided in almost any size from 12 in (300 mm) square for small shakers to 8 feet (2.5 meter) square for the larger shaker systems. Different types of restraining bearings are available to meet different application requirements and operating budgets.

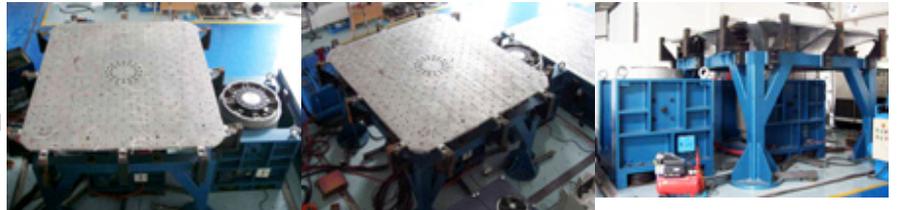
Head Expanders, Fixtures and Guided Head Expanders.

Special Projects

Guided Head Expander and Slip Table meet Customers exact testing requirements.

Two 20 ton (20,000 kgf) Vibration Systems, Guided Head Expander and a special Slip Table were supplied to an international railcar company for testing large and heavy test loads with a high center of gravity.

Engineers at our research center in Beijing ensured the dynamic performance of the Head Expander was inline with the customers expectations using the latest FEM analysis software.



Equipment:

- 2 – ETS Solutions H Series Water Cooled Shakers
- 2 – ETS Solutions MPA Series Switching Power Amplifiers
- 1 – 11.5 x 9.8 ft (3.5 x 3 meter) Special T Bearing Slip Table - slip plate mass 7,500 lb (3,400 kg), static load capability 10 ton (10,000 kg)
- 1 - 11.5 x 9.8 ft (3.5 x 3 meter) Guided Head Expander – aluminium head expander mass 8,377 lb (3,800 kg), static load capability 8 ton (8,000 kg)

Head Expanders & Fixtures

ETS Solutions offers Head Expanders for applications where larger vertical test mounting surfaces are required. Head Expanders are manufactured from lightweight magnesium alloy, providing high strength-to-weight ratio. A choice of less expensive aluminum alloy is also available for smaller fixtures. The Head Expander allows multiple items to be tested at the same time, decreasing total test cycle time. Head Expanders with load support guidance allow payloads with large footprints to be safely mounted and tested on the shaker, reducing the risk of damage to the shaker suspension system.

The Guided Head Expanders are designed for testing of large, heavy packages to handle tough transportation and other demanding test profiles while providing additional restraints and load support.

Customized fixtures can also be designed and manufactured based on the customer's specimen mounting requirement. Cube, L type and T type fixtures for testing of multiple small sized components are available. The customized cube, L or T types are preferred by customers for three axis testing without investing in an additional slip table.

The latest software for FEM analysis is utilized for fixture designs to produce the best results for fixtures with an exceptional dynamic performance.