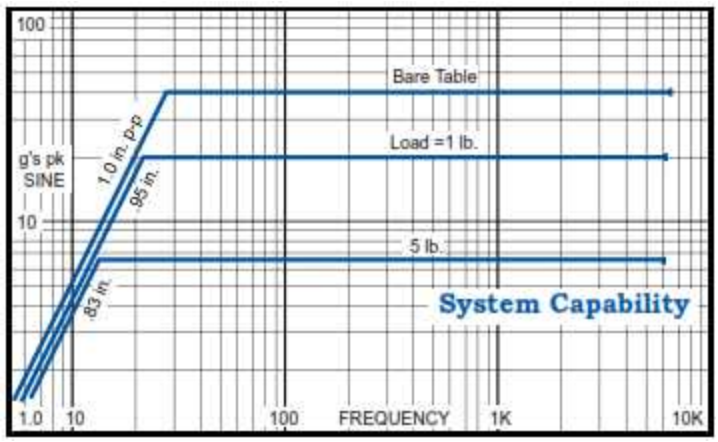
LW139.138-40 Vibration System

The LW139.138-40 system is an excellent choice for modal testing due to the small shaker size, large displacement and absence of cooling hoses. Due to its compact size, this system is highly portable. The power amplifier has the option of being operated in the current source mode to facilitate modal testing. The large armature table facilitates general vibration testing of components and subassemblies with the amplifier in voltage source mode..

General Specifications

Sine Force:	40 lbs force pk
Random Force:	17 lbf rms random
Shock Force:	75 lbf pk shock
Frequency Range:	DC to 6,500 Hz
Max. Acceleration:	40 g pk, bare table 20 g pk, 1 lb. load 6.7 g pk, 5 lb. load
Max. Displacement:	1.0 inch pk-pk, bare table
Cooling:	Amplifier: forced air Shaker: natural convection
Power Requirements:	1000 VA @100, 120, 220, or 240V, 1Ø, 50/60 Hz.



Standard trunnion allows shaker operation in any position from vertical to horizontal. The hook-up requirements on the PA-138 are simple making the system highly portable.

System Components*

- ET-139 Electrodynamic Shaker
- PA-138 Linear Power Amplifier
- Interconnect Cables and Hoses

System Options*

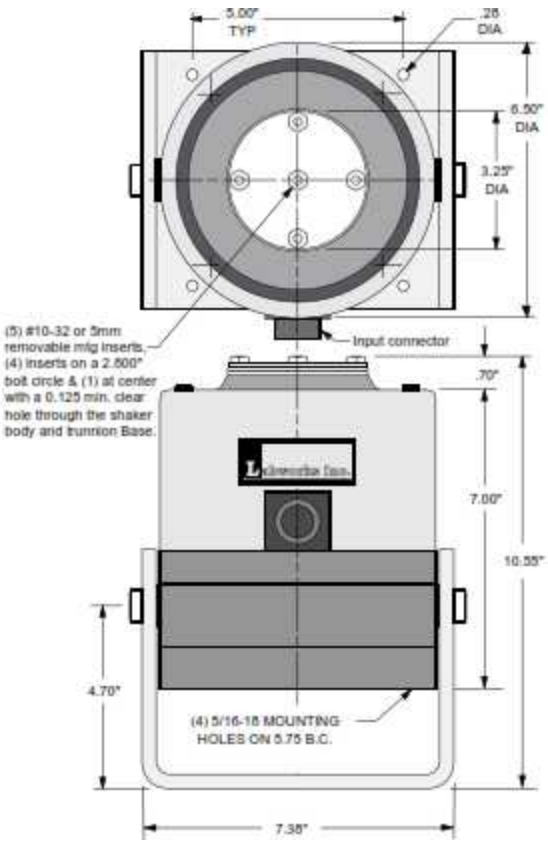
- VL-144 2 Ch. Sine, Random and Shock Controller
- VL-145 1 Ch. Digital Controller
- SC-121 Sine Servo Controller
- SG-135 Manual Sine Controller
- Rack Cabinet
- HE-139 Head Expander

*See individual components for more detailed specifications and options.

ET-139 Electrodynamic Shaker

- 75 pounds pk sine force
- 1.0 inch stroke
- 3.25 inch diameter table
- Payloads up to 7 lbs.
- Low stray magnetic field
- Frequency range DC-6,500 Hz.
- Trunnion mounting base
- Through-hole design

The ET-139 is our most powerful permanent magnet shaker. It is an excellent choice for modal testing due to its compact size and long stroke. A large armature makes the shaker ideal for general vibration testing of components and subassemblies. The standard trunnion allows operation in any position from vertical to horizontal. A unique, all flexure, armature suspension design provides excellent axial compliance with high lateral stiffness. There are no rolling or sliding components to wear out and/or produce unwanted noise and distortion. The shaker body's through-hole design allows operation with modal stingers as well as tension wire set ups.



General Specifications[1]

Performance

Sine force	
Natural cooling	40 lbf pk
With blower	75 lbf pk
Random force	
Natural coolling	28 lbf rms
With blower	50 lbf rms
Shock force	150 lbf pk
Max displacement	
Continuous pk-pk	1.0 in
Between stops	1.03 in

Physical

Armature weight	1.0 lb
Suspension stiffness	60 lb/in
Dimensions	10.4" H x 7.4" W x 6.5" D
Shaker weight	28 lbs

Options

- Vibration isolation mounts. Modal stingers and mounts.
- Cooling vacuum recommended continuous for operation above 35 lbf.
- DB-139 Duobase Flexure Table

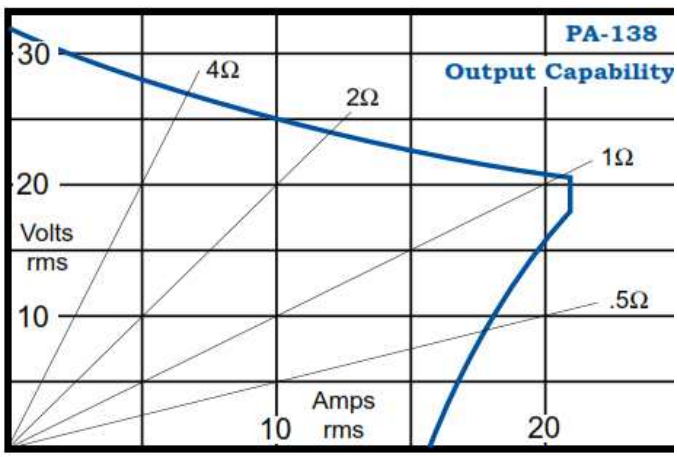
[1] Please see systems ratings for additional specifications
[2] Load dependent.
Specifications subject to change.

PA-138 Linear Power Amplifier

- **Output: 25V, 500 VA**
- **Direct coupled linear output**
- **Output voltage and current meters**
- **Voltage and current source modes**
- **Small size, high power**

The Labworks PA-138 Linear Power Amplifier is a high quality, air-cooled, direct-coupled audio amplifier primarily intended for use with small vibration systems. Although this amplifier has been designed to directly drive low impedance loads, it can be used in any application requiring continuous duty, high quality, audio power.

PA-138 Amplifiers feature protection from both over current and over temperature insuring long term reliability. The amplifier has full interlock capabilities as well as peak voltage and RMS current bar graphs to monitor output.



General Specifications*

Output voltage	25 V rms
Output current	20 A rms
Max. cont. dissipation	450 W
Frequency response	
Voltage source: DC to 10 KHz	-0.6 dB
Current source: DC to 2 KHz	-2 dB @ 4Ω
Max. voltage gain	30 dB
Cooling	2-speed fan, automatic
Input impedance	10 kΩ
Meters	
Volts, pk	19 segment ± 5 %
Amps, rms	19 segment ± 5 %
Interlock circuit	
External, user	F.O. switch or TTL
Input power	1000 VA max
Voltage	100,120, 220, 240 V,1Ø
Frequency	48 to 62 Hz
Dimensions	3.5" H x 19" W x 13" D
Weight	24 lbs

*Specifications subject to change. Call factory for latest specifications.

Amplifier Options

- Rack panel cabinet
- BNC signal cables