

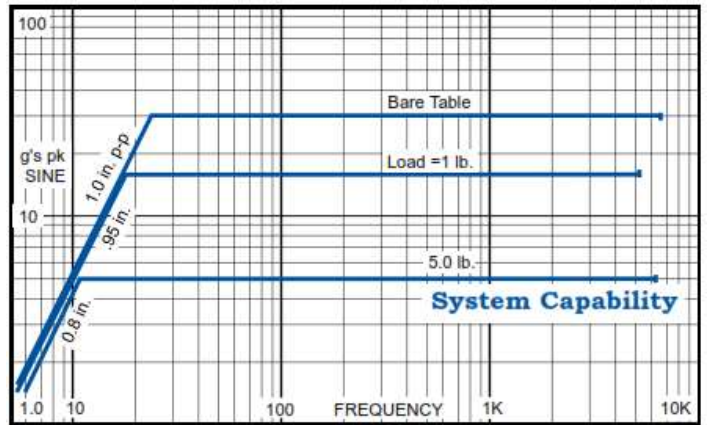
LW139.151-30 Vibration System



The LW139.151-30 system utilizes the Labworks ET-139 shaker in our lowest force 3 in. table shaker system. Suitable for larger loads that don't require high vibration levels, this system offers the benefits of the larger shaker with a lower system price. The shaker's full 1-inch armature stroke capability is ideal for many modal as well as low frequency general purpose applications. The convection cooled PA-151 amplifier is direct coupled to the shaker to give the maximum performance at both low and high frequencies and can be easily switched from voltage source mode for general testing to current source mode for modal testing applications. Dual bar graphs display the system operating levels and internal and external interlocks help protect the system from accidental abuse.

General Specifications

Sine Force:	30 lbs force pk
Random Force:	15 lbf rms random
Shock Force:	45 lbf pk shock
Frequency Range:	DC to 6,500 Hz
Max. Acceleration:	30 g pk, bare table 15 g pk, 1 lb. load 5.0 g pk, 5 lb. load
Max. Displacement:	1.0 inch pk-pk, bare table
Cooling:	Amplifier: natural convection Shaker: natural convection
Power Requirements:	300 VA @95-125, 190-250V, 1Ø, 50/60 Hz.



MS-129
Option

Standard trunnion allows shaker operation in any position from vertical to horizontal. The hook-up requirements on the PA-151 are simple making this system highly portable.

System Components*

- ET-139 Electrodynamic Shaker
- PA-151 Linear Power Amplifier
- Interconnect Cables and Hoses

System Options*

- VL-145 Single Channel Digital Controller
- SC-121 Sine Controller
- SG-135 Manual Sine Servo Controller
- HE-139 Head Expander
- Amplifier Rack Mount Brackets
- MS-129 Modal Stinger Kit

*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 Specifications¹

Performance

Sine force	
Natural cooling	40 lbf pk
With blower	75 lbf pk
Random force	
Natural cooling	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

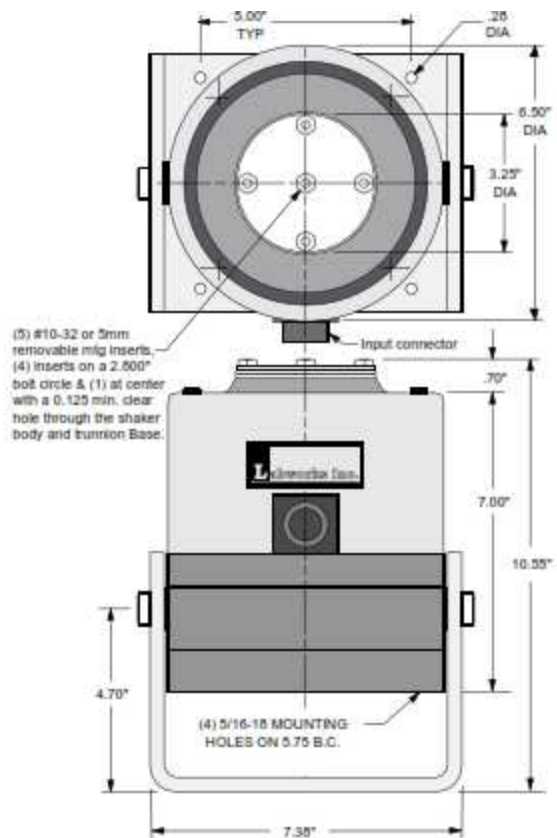
- Vibration isolation mounts. Modal stingers and mounts.
- Cooling vacuum recommended continuous for operation above 35 lbf.

■ DB-139 Duobase Flexure Table

¹ Please see systems ratings for additional specifications

² Load dependent.

Specifications subject to change.



PA-151 Linear Power Amplifier

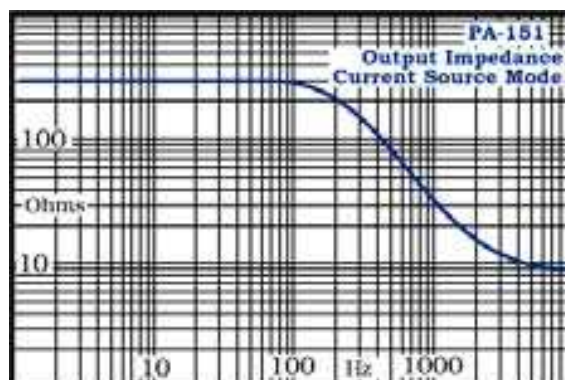
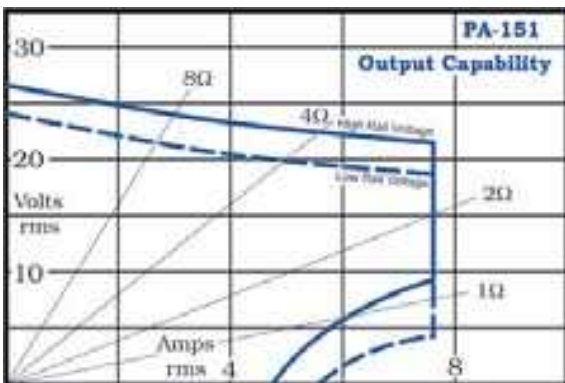


- Output: 25V or 20V, 180 VA
- Direct coupled linear output
- Output voltage and current meters
- Voltage and Current source modes
- Convection cooling, no fans
- Light weight, desktop amplifier



The Labworks PA-151 Linear Power Amplifier is a high quality, convection-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-151 Amplifiers feature protection from both over current and over temperature insuring long term reliability. The amplifier circuitry uses soft start technology for load protection and has external interlock capabilities as well as output voltage and current bar graphs. A voltageproportional-to-output-current signal output is provided for modal test and other applications requiring force monitoring. A unique dynamic output drive circuit provides high random peak output current for increased random and shock vibration system performance.



General Specifications*

Output voltage	25 or 20 V rms
Output current	7.5 A rms
Max. cont. dissipation	180 W
Frequency response	Voltage Source: DC to 10 KHz Current Source: DC to 2 KHz
Max. voltage gain	-1 dB
Max. current gain	-2 dB @ 4Ω
Cooling	28 dB
Input impedance	22 A/V
Meters	Natural convection
Volts	10 kΩ
Amps	9 segment bar graph
Interlock circuit	9 segment bar graph
External, user	F.C. switch or TTL, F.C.
Input power	300 VA max
Voltage	100-120, 200-240 V, 1Ø
Frequency	48 to 62 Hz
Dimensions	3.5" H x 17" W x 13" D
Weight	19 lbs

† Switch selectable internal rail voltage allows impedance matching to load requirements
‡ Specifications subject to change. Call factory for latest specifications.

Amplifier Options

- Rack panel cabinet
- BNC signal cables