

# LW140.141-110 Vibration System

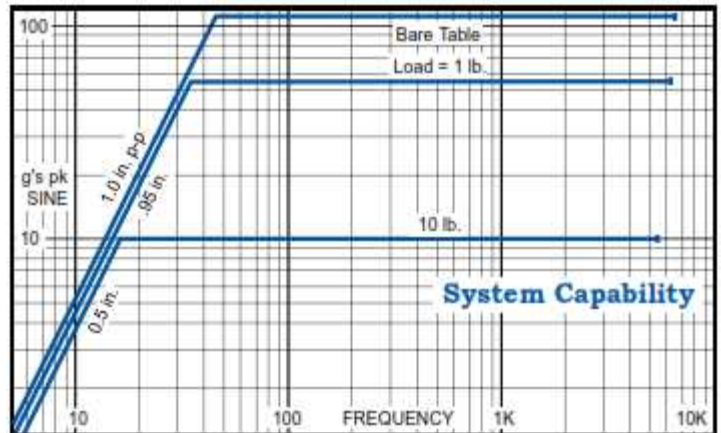


The LW-140-110 is a high performance system capable of very high acceleration (110 g, bare table). It is used for general purpose as well as modal testing. The shaker field supply is integrated into the power amplifier and includes a cooling interlock to protect the shaker..

## General Specifications

<b>Sine Force:</b>	110 lbs force pk
<b>Random Force:</b>	45 lbf rms random
<b>Shock Force:</b>	110 lbf pk shock
<b>Frequency Range:</b>	DC to 6,500 Hz
<b>Max. Acceleration:</b>	110 g pk, bare table 55 g pk, 1 lb. load 10 g pk, 10 lb. load
<b>Max. Displacement:</b>	1.0 inch pk-pk, bare table
<b>Cooling:</b>	Amplifier: forced air Shaker: cooling blower
<b>Power Requirements:</b>	3300 VA @100-125*, 200-240V 1Ø, 50/60 Hz.

\*Consult factory for low line voltage operation.



Standard trunnion allows shaker operation in any position from vertical to horizontal. The PA-141 features switched 115 Vac power provided on the amplifier for shaker cooling and optional instrumentation.

## System Components\*

- ET-140 Electrodynamic Shaker
- PA-141 Linear Power Amplifier
- FS-140 Integrated Field Supply
- CB-152-140 Cooling Blower
- 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
- HE-140 Head Expander
- Rack Cabinet
- Accelerometer Package (use with Controller option)

\*See individual components for more detailed specifications and options.

# ET-140 Electrodynamic Shaker



- 110 pounds pk sine force
- 1.0 inch stroke
- 3.25 inch diameter table
- Payloads up to 25 lbs
- Low stray magnetic field
- Frequency range DC-6,500 Hz.
- Trunnion mounting base
- Through-hole design

The ET-140 shaker's compact size, long stroke and lightweight armature make it well suited for modal as well as general vibration testing. Features include a rugged suspension system which minimizes test fixture requirements and related fixture guidance problems. The standard trunnion allows operation in any position from vertical to horizontal. It also facilitates bolting the shaker in place either with or without vibration isolation mounts. The shaker body's through-hole design allows operation with modal stingers as well as tension wire set ups.

## General Specifications<sup>1</sup>

### Performance

Sine force	110 lbf pk
Random force	75 lbf rms
Shock force	225 lbf pk
Max displacement	
Continuous pk-pk	1.0 in
Between stops	1.03 in

### Physical

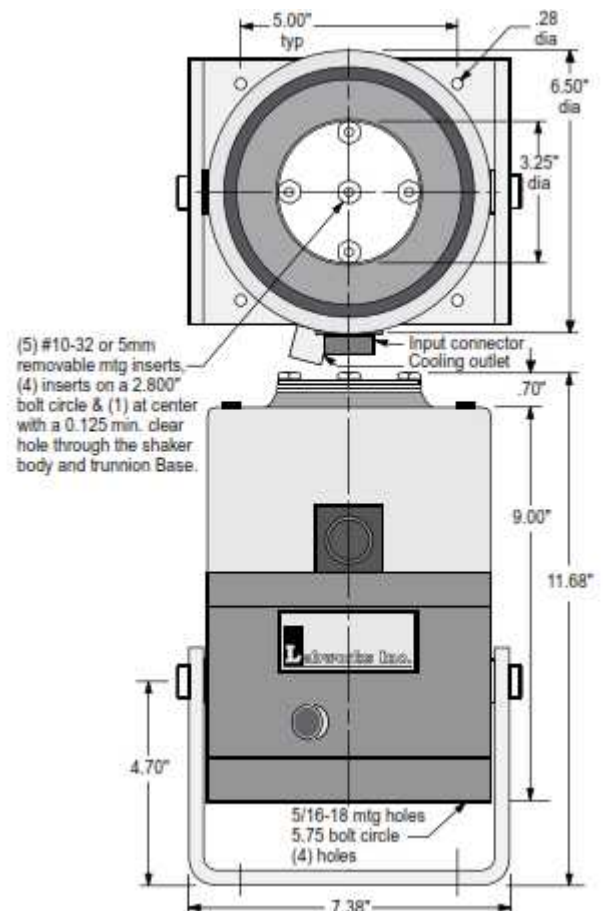
Armature weight	1.0 lb
Suspension stiffness	90 lb/in
Dimensions	11.5" H x 7.4" W x 6.5" D
Shaker weight	56 lbs

### Options

- Vibration isolation mounts.
- Modal stingers and mounts.
- DB-140 Duobase Flexure Table

<sup>1</sup> Please see systems ratings for additional specifications.

<sup>2</sup> Load dependent.  
Specifications subject to change.



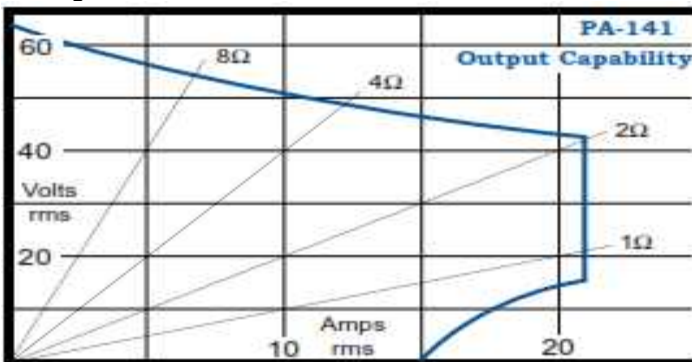
# PA-141 Linear Power Amplifier



- Output: 50V, 1000 VA
- Direct coupled linear output
- Voltage and current source mode
- External interlock circuitry
- Optional shaker field supplies



The Labworks PA-141 Linear Power Amplifier has two operational modes. The amplifier can be used as either a wide-band, highly damped voltage source, or as a high impedance current source. Optional, internal DC field power supplies can be supplied for use with Labworks ET-140 and ET-127 Shakers. These options provide the convenience of a single chassis, as well as fully integrated power-up and cooling interlocks.



## General Specifications\*

<b>Output voltage</b>	50 V rms
<b>Output current</b>	20 A rms
<b>Max. cont. dissipation</b>	900 W
<b>Frequency response</b>	
DC input: DC to 10 KHz	-6 dB
AC input: 1.0 to 10 KHz	-6 dB
<b>Max. voltage gain</b>	36 dB
<b>Cooling</b>	2-speed fan, automatic
<b>Input impedance</b>	10 kΩ
Volts, pk	19 segment ± 5 %
Amps, rms	19 segment ± 5 %
<b>Interlock circuit</b>	
External, user	F.O. switch or TTL
Shaker, internal, optional	cooling
<b>Optional field power</b>	1000 W max
<b>Input power</b>	2000 VA (3000 w/field)
Voltage	208 or 230 Vac, 1Ø
Frequency	48 to 62 Hz
<b>Dimensions</b>	7" H x 19" W x 17" D
<b>Weight</b>	48 lbs

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

# CB-152

Delux, Long Life, Quiet,  
Cooling Vacuum



Std: LW140-110    Opt: ET-139  
LW139-75        ET-126  
LW126-25        ET-132  
LW160-60        ET-160  
LW161-25        ET-161

## General Specifications

<b>Blower Type:</b>	Suction (vacuum turbine)
<b>Flow @ Pressure:</b>	35 cfm @ 30" H <sub>2</sub> O
<b>Motor:</b>	250 W, Brushless
<b>Power:</b>	115/230 Vac, 50 or 60 Hz (Specify)
<b>Intake:</b>	.75" and .63" dia.
<b>Noise Level:</b>	< 71 dB @ 1 M
<b>Hose Length:</b>	7.5', flexible vacuum
<b>Blower Weight:</b>	30 lbs.
<b>Minimum Blower Life:</b>	> 25,000 Hrs
<b>Dimensions:</b>	11H x 9.5W x 11L in.