

# LW127.123-500D12

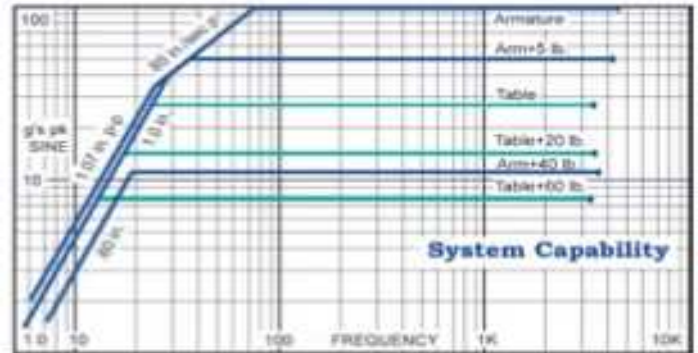
## DuoBase System



The LW-127-500D12 is the largest of the current family of Labworks vibration test systems. Its large 12 inch Square oil film Slip Table mounting surface provides high load and off-center moment capability for applications where heavy or large loads are to be tested. The DB-127 also allows the ET-127 shaker to be uncoupled from the slip table and rotated into its vertical position allowing normal vertical testing of smaller components directly on the shakers armature. The Shakers internal high lateral stiffness carbon composite armature suspension reduces problems associated with off-center loads when operating vertically. The ET-127 Shaker in this system is equipped with a degauss coil to ensure low stray magnetic field for sensitive applications. The modular air cooled PA-123 amplifier is direct coupled to the shaker to give the maximum performance at low and high frequencies. Digital meters display the system operating levels and complete shaker and user interlocks help protect the system from accidental abuse.

### General Specifications

<b>Sine Force:</b>	500 lbs force pk
<b>Random Force:</b>	350 lbf rms random
<b>Shock Force:</b>	1,000 lbf pk shock
<b>Frequency Range:</b>	
Horizontal, w/Slip Table	DC to 3,000 Hz
Vertical, w/o Slip Table	DC to 4,500 Hz
<b>Max. Acceleration:</b>	
Horizontal, w/Slip Table	26 g pk, bare table 13 g pk, 20 lb. load 6.3 g pk, 60 lb. load
Vertical, w/o Slip Table	100 g pk, bare table 50 g pk, 5 lb. load 11 g pk, 40 lb. load
<b>Max. Displacement:</b>	1.0 inch pk-pk, bare table
<b>Cooling:</b>	Amplifier: forced air Shaker: cooling vacuum
<b>Power Requirements:</b>	5200 VA @ 208- 230V, 1Ø, 50/60 Hz.



### System Components\*

- DB-127-12 Electrodynamics Shaker w/12" sq Slip Table Base
- PA-123-3/2-500 Amplifier, De-Gauss & Field Supply
- CB-127 Cooling Blower
- Amplifier Cabinet
- Interconnect Cables and Hoses

### System Options\*

- VL-144x 2 Ch. Sine, Random and Shock Controller
- VL-145x 1 Ch. Sine and Random Digital Controller
- SC-121 Sine Servo Controller
- SG-135 Manual Controller
- HE-127 Head Expander
- AI-127 Pneumatic Base Isolation Kit

See individual components for more detailed specifications and options.



# ET-127 Electrodynamic Shaker



- 500 pounds pk sine force
- 1.0 inch stroke
- 6.0 inch diameter table
- Unsupported Payloads up to 50 lbs
- Low stray magnetic field
- Frequency range DC-4,500 Hz
- Trunnion mounting base

The ET-127 Electrodynamic Transducer is well suited for testing mechanical assemblies, packaging and printed circuit boards, as well as modal applications. The shaker incorporates the latest high-tech composite materials and features a revolutionary "side load" restraint design in the armature suspension and guidance system. A host of "big shaker" options allow the ET-127 to be easily adapted to specific testing applications.

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

### Performance

Sine force	500 lbf pk
Random force	350 lbf rms
Shock force	1000 lbf pk
Max displacement	
Continuous pk-pk	1.0 in
Between stops	1.2 in

### Physical

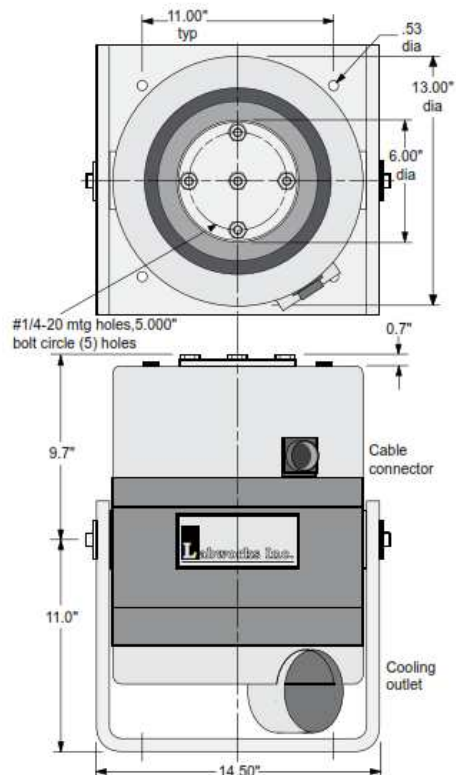
Armature weight	5.0 lb
Suspension stiffness	250 lb/in
Dimensions	21" H x 14.5" W x 14" D
Shaker weight	475 lbs

### Options

- AI-127 (5 Hz) & SI-127 (10 Hz) Vibration Isolation Mounts.
- LS-127 Pneumatic Payload Support.
- DB-127 DuoBase Horizontal/Vertical Table.
- TA-127 Thermal Chamber Interface.
- M6 x 1 Metric Inserts.
- Head Plates and Fixtures

<sup>1</sup> Please see systems ratings for additional specifications.  
Load dependent.  
Specifications subject to change.

<sup>2</sup>



# DB-127 DuoBase Shaker

- Large mounting surface
- 1.0 inch p-p stroke
- Integral oil moat and pump
- Horizontal and vertical testing
- Lightweight magnesium table



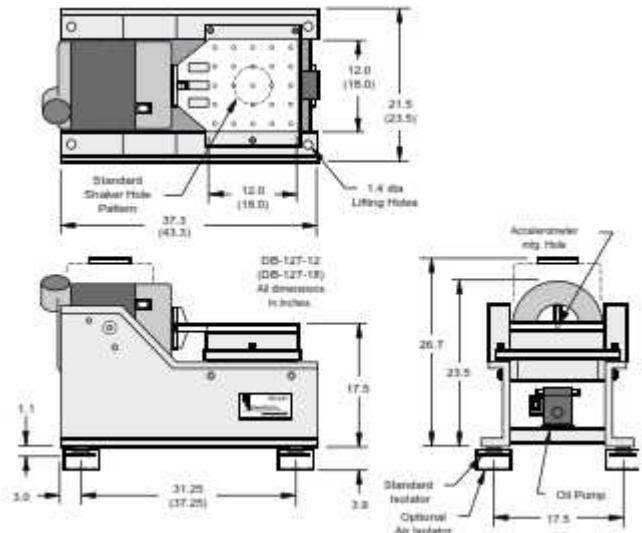
## General Specifications<sup>1</sup> DB-127-12 (-18)

Moving Element Weights	-12	(-18)
Slip Table weight	14 lbs	(35 lbs)
Shaker Armature weight	5 lbs	
Maximum Recommended Loads		
Table vertical/horizontal	100 lbs	(200 lbs)
Table mounting CG moment	100 in-lb	(150in-lb)
Table Mounting Surface (in.)	12 x 12	(18 x 18)
Max. Bare Table Acceleration*	26 g pk	(12 g pk)
Bare Table Resonance Freq.	2300 Hz	(2000 Hz)
Maximum Useable Freq.	3000 Hz	(2500 Hz)
Displacement	1 inch pk-pk	
Table Mounting Hole Pattern	Same as shaker	
Oil Reservoir Capacity	4 gal	(.8 gal)
Complete Base + Shaker Wt.	1000 lb	(1200 lb)
Overall Dimensions (in.)	37.3 L x 23.5 H x 19.5 W	

### Options

- Additional Mounting Holes
  - AI-DB127 Pneumatic (5 Hz) Isolation Mounts
- Please see appropriate Shaker or System data sheet for performance specifications

The DB-127 DuoBase Slip Table offers a large mounting surface with high load carrying capability for applications where lower acceleration levels are needed for large or heavy loads. The slip table utilizes a low pressure mineral oil film and rigid granite plate to provide support and guidance for the table. High rotational moments are reacted through the oil film to the base, allowing testing of high CG loads without risk of shaker suspension damage. The shaker can also be disconnected from the table, rotated to the vertical position, and then used as a normal vertical shaker without the additional weight of the Table. The base is supplied with standard machinery (15 Hz) isolation mounts.



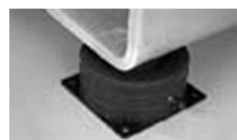
## ET-127 Load Support & Isolation Mounts



Left...LS-127 Pneumatic Armature Payload Support is used when full displacement is required with heavy loads.



Standard 10 Hz, SI-127 Solid Vibration Isolation Mounts.  
Far left...SI-127 mounted to ET-127 trunnion.



Optional 5 Hz, AI-127 Pneumatic Vibration Isolation Mount.  
Far left...AI-127 mounted to ET-127 trunnion.

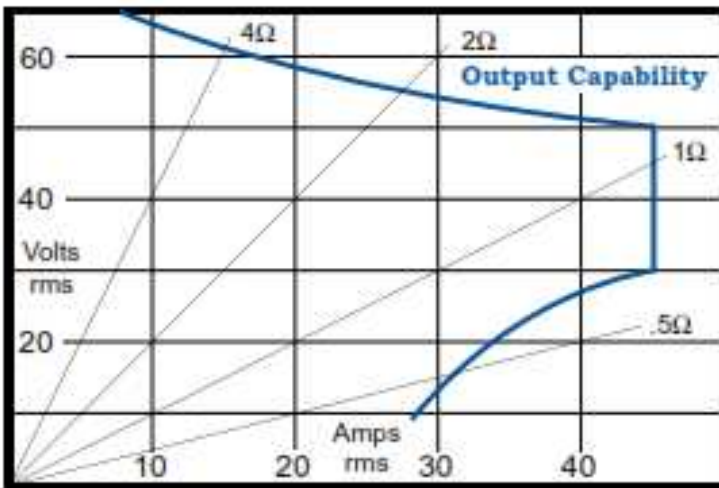
# PA-123-3/2-500

## Linear Power Amplifier

- Output: 65V, 2600 VA.
- DC/direct coupled linear output
- Adjustable current limiter
- Field and De-Gauss power for the ET-127 shaker

The PA-123-3/2-500 houses a field and De-Gauss power supply specifically designed to drive the ET-127 shaker. It's a class AB, air-cooled unit with a power output of 2,600 VA, and is made up of three separate interconnected chassis. The flexible PA-123 modular design allows this amplifier to be configured for use with other shakers.

The CP-123 Control Panel features a low noise preamplifier, amplifier output voltage and current metering, adjustable output current limiting, and complete interlock circuitry. The power and field supply chassis houses input power transformers, power supply circuitry, the shaker interface, shaker cooling blower power source, and field cooling interlock.



### Amplifier Options

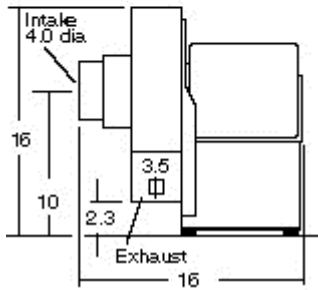
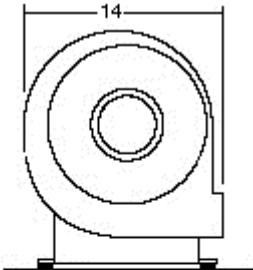
- CS-123 Current Source chassis

### General Specifications\*

<b>Output voltage</b>	65 V rms
<b>Output current</b>	40 A rms
<b>Max. cont. dissipation</b>	2250 W
<b>Frequency response</b>	
DC input: DC to 10 KHz	-1 dB
AC input: 1.0 to 10 KHz	-1 dB
<b>Max. voltage gain</b>	40 dB
<b>Cooling</b>	2-speed fan, automatic
<b>Input impedance</b>	10 kΩ
<b>Meters</b>	
Volts, pk	3 digit ± 1 lsd
Amps, rms/pk	3 digit ± 1 lsd
<b>Interlock circuit</b>	
Shaker, internal	Over travel, cooling
External, user	N.O./N.C. switch or TTL
<b>Shaker field power</b>	1,250 W
<b>Input power</b>	5,200 VA max
Voltage	208 or 230 Vac, 1Ø
Frequency	48 to 62 Hz
<b>Dimensions</b>	28" H x 21" W x 20" D
<b>Weight</b>	280 lbs

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

# CB-127 Cooling Vacuum



## General Specifications

<b>Blower Type:</b>	Suction
<b>Flow @ Pressure:</b>	200 cfm @ 4" H
<b>Motor:</b>	1/3 Hp
<b>Power:</b>	115 Vac, 60 Hz
<b>Intake:</b>	4" dia. (5" dia. w/o adapter)
<b>Hose Length:</b>	12.5', flexible vacuum, std
<b>Pressure Drop:</b>	1" H <sub>2</sub> O@200 cfm
<b>Maximum allowable combined ducting pressure drop with ET-127</b>	