

LW127.141-225D12

DuoBase System

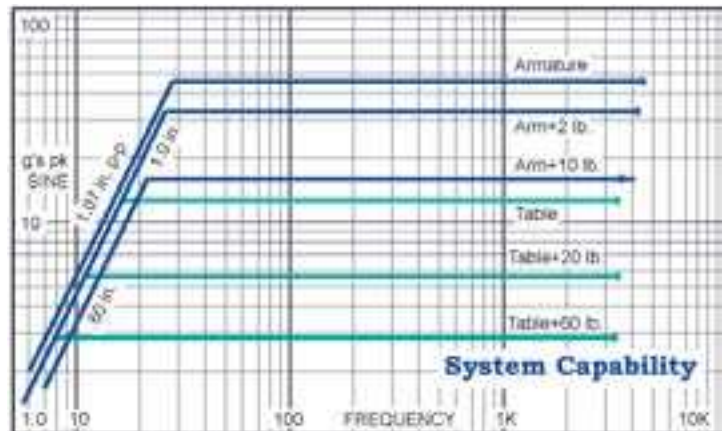


The LW127.141-225 system utilizes the ET-127 shaker in a lower force output system. Suitable for larger loads that don't require high vibration levels, the 225 system offers the benefits of the larger shaker at a reduced price to give the maximum performance at low and high frequencies. Its large 12 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.. Dual meters display the system operating levels and complete shaker and user interlocks help protect the system from accidental abuse.

General Specifications

Sine Force:	225 lbs force pk
Random Force:	110 lbf rms random
Shock Force:	240 lbf pk shock
Frequency Range:	
Horizontal, w/Slip Table	DC to 3,000 Hz
Vertical, w/o Slip Table	DC to 4,500 Hz
Max. Acceleration:	
Horizontal, w/Slip Table	12 g pk, bare table 5.8 g pk, 20 lb. load 2.9 g pk, 60 lb. load
Vertical, w/o Slip Table	45 g pk, bare table 32 g pk, 5 lb. load 15 g pk, 10 lb. load
Max. Displacement:	1.0 inch pk-pk, bare table
Cooling:	Amplifier: forced air Shaker: cooling vacuum
Power Requirements:	3500 VA @ 100-125*, 200-240V 1Ø, 50/60 Hz.

*Consult factory for low line voltage operation.



System Components*

- DB-127-12 Electrodynamic Shaker w/12± sq Slip Table Base
- PA-141-127 Amplifier & Field Supply
- CB-127 Cooling Blower
- 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
- Amplifier Cabinet
- AI-127 Pneumatic Base Isolation Kit

*See individual components for more detailed specifications and options.2



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 Specifications¹

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

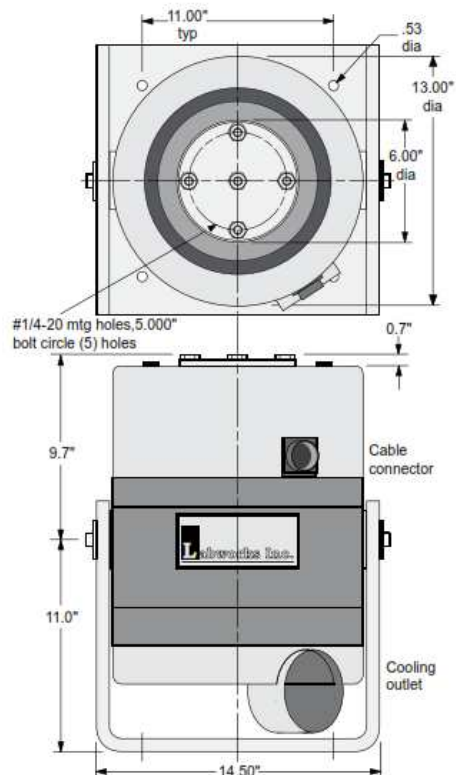
Armature weight	5.0 lb
Suspension stiffness	250 lb/in
Dimensions	21" H x 14.5" W x 14" D
Shaker weight	475 lbs

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

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

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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



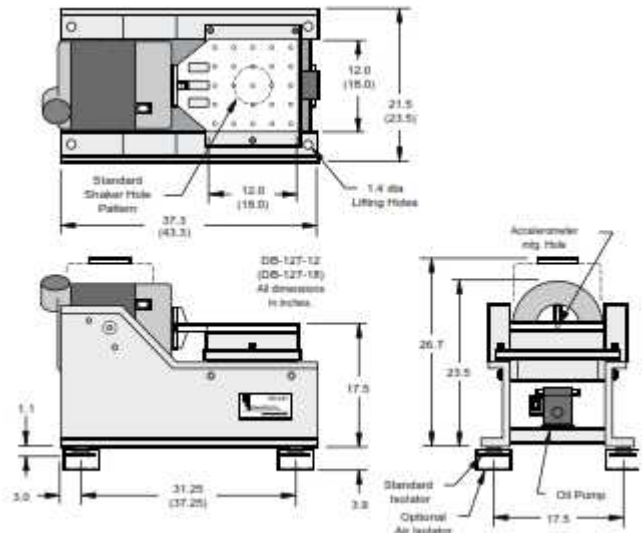
General Specifications¹ DB-127-12 (-18)

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

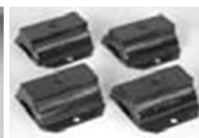
The DB-127 DuoBase Slip Table offers a large mounting surface with high load carrying capability for applications where lower acceleration levels are needed for large or heavy loads. The slip table utilizes a low pressure mineral oil film and rigid granite plate to provide support and guidance for the 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.



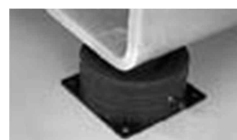
ET-127 Load Support & Isolation Mounts



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

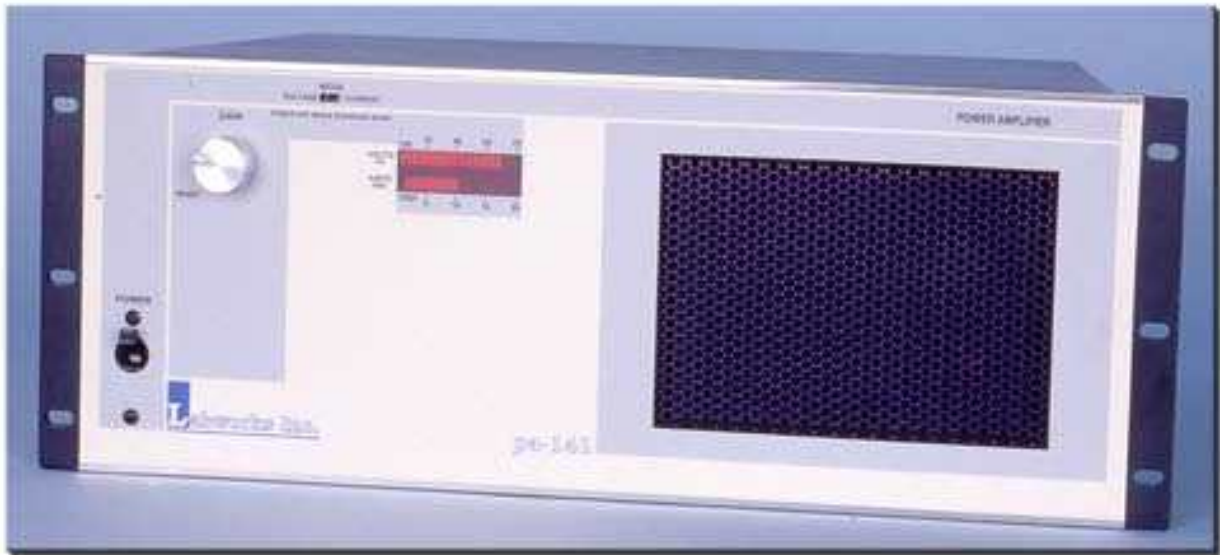


Standard 10 Hz, SI-127 Solid Vibration Isolation Mounts.
Far left...SI-127 mounted to ET-127 trunnion.



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

PA-141 Linear Power Amplifier



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

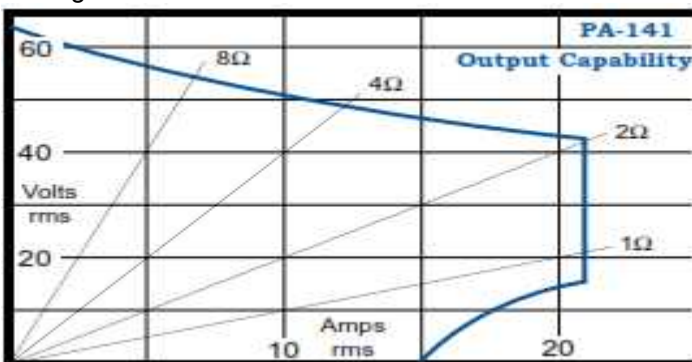
The Labworks PA-141 Linear Power Amplifier has two operational modes. The amplifier can be used as either a wide-band, highly damped voltage source, or as a high impedance current source. Optional, internal DC field power supplies can be supplied for use with Labworks ET-140 and ET-127 Shakers. These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



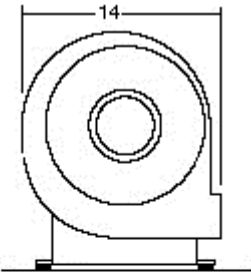
General Specifications*

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

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



CB-127 Cooling Vacuum



General Specifications

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

