

FG-142 *Force Generator*



GENERAL DESCRIPTION

The FG-142 generator's compact size and lightweight construction make it equally well suited for modal as well as general vibration testing on larger and more compliant test articles. The generator has a single .141 inch diameter mounting hole and a rugged internal suspension system which eliminates test fixture requirements for most testing applications. The FG-142 can be operated in any position and is therefore easily positioned for modal applications above 20 Hz.

Reliability is assured through the use of the latest composite materials in the unique, integral, armature coil design. The generator's closed armature design eliminates alignment and lateral motion problems. When combined with a Labworks linear power amplifier, the system is unmatched for reliability, performance, and cost.

- 4 POUNDS PK SINE FORCE
- 0.33 lb. DYNAMIC WEIGHT
- SINGLE .141 in. MOUNTING HOLE
- 2.0 in. DIAMETER
- 20 - 3000 Hz.

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STANDARD FEATURES

- AIR COOLED
- PERMANENT MAGNET DESIGN
- ANY POSITION MOUNTING



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FG-142 SPECIFICATIONS ¹

PERFORMANCE

Sine force	
Natural cooling	2 lbf pk
Forced air cooling	4 lbf pk
Random force	
Natural cooling	1.4 lbf rms
Forced air cooling	2.8 lbf rms
Shock force	4.5 lbf pk, 20 msec
Low frequency force	.012 f ² (.35-d)
	<small>f=freq. Hz, d=disp. in. pk-pk</small>
Max displacement	.35 in
Maximum velocity	20 ips pk
Acceleration, non-resonant ^{1,2}	
Bare table	6.0 g pk
1 lb load	1.5 g pk
5 lb load	.38 g pk
Maximum acceleration	
Resonant sine	100 g pk
Peak shock	13.5 g pk

PHYSICAL

Dynamic weight	.33 lb
Total weight	.56 lb
Rated armature current	
Natural cooling	1.1 A rms
Forced air cooling	2.2 A rms
Frequency range	20 - 3000 Hz
Reaction mass resonance	10 Hz
Structural resonance ²	3500 - 4500 Hz
Stray magnetic field	
Measured @ 1.0" distance	<10 gauss
Cooling (>1.0 lb force)	3.5 CFM/5 psi
Dimensions	2.0" dia x 1.5" long
Attachment hole	.141" dia x 1.5" long

OPTIONS

Cooling package: Required for operation above 2.0 lbf. Regulator, filter, 10 ft. hose, etc. Requires 80 - 125 psi inlet air pressure @ 3.5 CFM dry air.

¹ Please see systems ratings for additional specifications.

² Load dependent.

Specifications subject to change. Consult factory for latest specifications.

