



## www.dynsolUSA.com



- Shakers
- Amplifiers
- Used Equipment
- Repair Services
- Training
- And more...

DYNAMIC SOLUTIONS is a team of experienced industry professionals committed to presenting our customers with the best solutions available. Predominantly serving the North American Vibration Test Market we offer superior product performance, the highest quality standards and competitive prices on a wide selection of new and used environmental test equipment.

The DYNAMIC SOLUTIONS product line has been marketed overseas for many years and has a proven track record of quality workmanship and product reliability. Our products are built according to the strictest quality standards in an ISO9001 certified facility and every unit is tested in full compliance with ISO 5344... nothing fancy – just reliable, affordable technology that is designed to provide years of trouble-free service.

DYNAMIC SOLUTIONS also works with all the best used equipment dealers in the country so we can find you the best system for your needs and budget. DYNAMIC SOLUTIONS conducts regular quality audits to make sure all of the dealers we work with are reconditioning and testing every used system we sell to the highest quality standards. And when you purchase a system from DYNAMIC SOLUTIONS, NEW or Used, we remain committed to a 100% customer satisfaction philosophy.



#### PRODUCT OVERVIEW

DYNAMIC SOLUTIONS offers vibration test equipment covering a wide range of test applications.







DYNAMIC SOLUTIONS offers a complete range of vibration test systems, including air cooled Electro-Dynamic Shakers with outputs from 200 force pounds to 40,000 force pounds; Switch Mode and Linear Power Amplifiers; Slip-Table Assemblies; Dynamic Fixtures; Head Expanders; Shock Testers; Transportation Simulators; Free Fall Shock Testers and peripheral instrumentation including control and data acquisition systems, accelerometers and more.

**DS12000 Armature** 

DYNAMIC SOLUTIONS also sells VTS shaker systems for force requirements from 40 to 600 lbf. as well as previously owned, reconditioned shock and vibration test systems.

We work with many other suppliers and would be happy to provide you with a turnkey solution.

DYNAMIC SOLUTIONS SA-series switching amplifiers can be configured to meet the current and voltage requirements of any other manufacturers' shakers and represent a cost-effective upgrade for older systems.



VTS100/combo12

DYNAMIC SOLUTIONS is 100% committed to quality. We believe in our products and are the only shaker in the world to offer a **THREE-YEAR PARTS WARRANTY**.



#### **ELECTRO-DYNAMIC SHAKER SYSTEMS**



DYNAMIC SOLUTIONS Electro-Dynamic shakers cover a wide range of force output from 200 to 40,000 lbf. for testing small to large payloads. The shakers are supplied with digital switching power amplifiers. In addition to our line of electro-dynamic shakers, Dynamic Solutions also offers permanent magnet and table top designs for shaker requirements from 40 to 600 lbf. These systems support a variety of applications including Automotive, Military, Aerospace, Aviation, Medical, Telecommunications and Electronics.

DYNAMIC SOLUTIONS Electro-Dynamic Shakers provide exceptional performance and proven reliability in hundreds of installations. DYNAMIC SOLUTIONS provides state-of art designs that include the following features:

- ALL 100% AIR-COOLED!!
- High First Resonance Frequency
- Every system is thoroughly tested in full compliance with ISO 5344
- Digital switching amplifiers utilize state-of-the-art IGBT technology
- FULL 3 year parts warranty (including armature and field coils) on every system!

And we welcome custom applications.





## TURNKEY SYSTEM includes Shaker, Amplifier Blower and Accessory kit with:

- Φ50 metal hoops with 2 pieces of turnbuckle
- Interconnecting cable between amplifier and shaker
- One set of Stinger
- (4) M6 Copper Nuts
- Φ2 Steel Cord, 50 cm length
- Steel Cord Collet
- M3 Hex Head Wrench
- M4 Hex Head Wrench
- Fuse for Armature 10A, 2 pcs



# ELECTRO-DYNAMIC SHAKER SYSTEM SPECIFICATIONS

Model No.	Freq. Range (HZ)	Sinus	ted soidal rce		Random orce		lax. ispl.	Max. Accel.	Max. \	/elocity
		Kgf.	Lbf.	Kgf.	Lbf.	(mm) p-p	(In) p-p	(g-pk)	(m/s)	(in/s)
DSS-M100 (Stinger)	5-10000	45	100	32	70	25	1.0	100	1.6	63
DSS-220VH/6-1	5-4000	100	220	82	180	25	1.0	41	1.2	47
DSS-330VH/6-2	5-4000	150	330	150	330	25	1.0	61	1.2	47
DSS-440VH/6-2	5-4000	200	440	160	352	25	1.0	80	1.6	63
DSS-660VH/6-3	5-4000	300	661	240	529	25	1.0	100	1.6	63
DSS-1300VH/8-6	5-3000	600	1323	480	1058	25	1.0	100	1.6	63
DS-440VH/9-2	5-3000	200	440	160	352	40	1.6	25	1.4	55
DS-660VH/9-3	3-3000	300	661	240	529	40	1.6	35	1.4	55
DS-1300VH/9-6	5-2000	600	1323	480	1058	51	2.0	50	1.4	55
DS-2200VH/8-10	5-3000	1000	2205	1000	2205	51 51	2.0	100	1.8	71 71
DS-2200VH/9-10	5-3000	1000	2205	1000	2205	_	2.0	100	1.8	
DS-3300VH/12-15 DS-4400VH/12-20	5-3000 5-3000	1500 2000	3307 4410	1500 2000	3307 4410	51 51	2.0	75 100	2.0	79 79
DS-6600VH/14-30	5-3000	3000	6615	3000	6615	51	2.0	100	1.8	79
DS-6600VH/12-30	5-3000	3000	6615	3000	6615	51	2.0	100	1.8	71
DS-9000VH/14-40	5-3000	4000	8820	4000	8820	51	2.0	100	1.8	71
DS-9000VH/17-40	5-2800	4000	8820	4000	8820	51	2.0	80	1.8	71
DS-12000VH/17-50	5-2800	5460	12012	5460	12012	51	2.0	100	1.8	71
DS-13000VH/17-60	5-2800	6000	13230	6000	13230	51	2.0	100	1.8	71
DS-16000VH/17-80	5-2800	7250	16000	7250	16000	51	2.0	100	1.8	71
DS-22000VH/19-130	3-2200	10195	22481	8156	17985	51	2.0	86	1.8	71
DS-36000VH/23-160	5-2000	16000	35280	16000	35280	60	2.36	100	1.8	71
DS-40000VH/23-200	5-2000	18506	40800	18506	40800	60	2.36	100	1.8	71
Model No.	Arm. Res. (Hz) Nominal	Armatur	e Weight		ature neter		. Static yload	Iso.	Shakei	r Weight
		Kgs.	lbs.	mm.	ln.	Kgs.	lbs.	Freq. (Hz.)	Kgs.	lbs.
DSS-M100 (Stinger)	3600	.45	.99						13	28.6
DSS-220VH/6-1	3400	2.5	5.5	150	5.9	70	154	3	400	882
DSS-330VH/6-2	3400	2.5	5.5	150	5.9	70	154	3	400	882
DSS-440VH/6-2	3400	2.5	5.5	150	5.9	70	154	3	400	882
DSS-660VH/6-3	2900	3.0	6.6	150	5.9	120	267	3	720	1584
DSS-1300VH/8-6	3300	6.0	13.2	200	7.87	200	441	3	930	2051
DS-440VH/9-2	2700	8.0	17.6	230	9.05	140	309	3	400	882
DS-660VH/9-3	2700	8.5	18.7	230	9.05	140	309	3	720	1588
DS-1300VH/9-6	2800	12	26.4	230	9.05	300	662	3	1010	2222
DS-2200VH/8-10	2400	10	22	200	7.87	150	330	2.5	1100	2425
DS-2200VH/9-10	2400	10	22	240	9.45	150	330	2.5	1100	2425
DS-3300VH/12-15					40.50	200	662	2.5	1600	3528
	2500	20	44	320	12.59	300	002	2.0		
DS-4400VH/12-20	2500 2500	20 20	44 44	320 320	12.59 12.59	300	662	2.5	1600	3528
DS-4400VH/12-20 DS-6600VH/14-30					12.59			2.5		3528
	2500	20	44	320		300	662		1600	
DS-6600VH/14-30	2500 2400	20 30	44 66	320 370	12.59 14.56 12.59	300 500	662 1102	2.5 2.5	1600 2500	3528 5512
DS-6600VH/14-30 DS-6600VH/12-30 DS-9000VH/14-40	2500 2400 2400 2400	20 30 30 37	44 66 66 82	320 370 320	12.59 14.56 12.59 14.56	300 500 500	662 1102 1102 1102	2.5 2.5 2.5 2.5	1600 2500 2500	3528 5512 5512 5512
DS-6600VH/14-30 DS-6600VH/12-30 DS-9000VH/14-40 DS-9000VH/17-40	2500 2400 2400 2400 2400 2400	20 30 30 37 50	44 66 66 82 110	320 370 320 370 440	12.59 14.56 12.59 14.56 17.32	300 500 500 500 800	662 1102 1102 1102 1764	2.5 2.5 2.5 2.5 2.5 2.5	1600 2500 2500 2500 4500	3528 5512 5512 5512 9922
DS-6600VH/14-30 DS-6600VH/12-30 DS-9000VH/14-40	2500 2400 2400 2400 2400 2400 2400	20 30 30 37 50	44 66 66 82 110	320 370 320 370 440 440	12.59 14.56 12.59 14.56 17.32 17.32	300 500 500 500 800 800	662 1102 1102 1102 1764 1764	2.5 2.5 2.5 2.5 2.5 2.5 2.5	1600 2500 2500 2500 4500 4500	3528 5512 5512 5512 9922 9922
DS-6600VH/14-30 DS-6600VH/12-30 DS-9000VH/14-40 DS-9000VH/17-40 DS-12000VH/17-50 DS-13000VH/17-60	2500 2400 2400 2400 2400 2400 2400 2400	20 30 30 37 50 50	44 66 66 82 110 110 132	320 370 320 370 440 440 440	12.59 14.56 12.59 14.56 17.32 17.32	300 500 500 500 800 800	662 1102 1102 1102 1764 1764 1764	2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5	1600 2500 2500 2500 4500 4500 4500	3528 5512 5512 5512 9922 9922 9922
DS-6600VH/14-30 DS-6600VH/12-30 DS-9000VH/14-40 DS-9000VH/17-40 DS-12000VH/17-50 DS-13000VH/17-60 DS-16000VH/17-80	2500 2400 2400 2400 2400 2400 2400 2400	20 30 30 37 50 50 60 72	44 66 66 82 110 110 132 159	320 370 320 370 440 440 440 440	12.59 14.56 12.59 14.56 17.32 17.32 17.32 17.32	300 500 500 500 800 800 800 800	662 1102 1102 1102 1764 1764 1764 1764	2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5	1600 2500 2500 2500 4500 4500 4500 4500	3528 5512 5512 5512 9922 9922 9922 9922
DS-6600VH/14-30 DS-6600VH/12-30 DS-9000VH/14-40 DS-9000VH/17-40 DS-12000VH/17-50 DS-13000VH/17-60	2500 2400 2400 2400 2400 2400 2400 2400	20 30 30 37 50 50	44 66 66 82 110 110 132	320 370 320 370 440 440 440	12.59 14.56 12.59 14.56 17.32 17.32	300 500 500 500 800 800	662 1102 1102 1102 1764 1764 1764	2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5	1600 2500 2500 2500 4500 4500 4500	3528 5512 5512 5512 9922 9922 9922



## **FACILITY REQUIREMENTS**

Model No.	Amplifier Type	Amplifier Kva	System Cooling		Facility Power KVA	Utility Requirement
			Amp	Shaker	FLA	3 phase
DSS-M100 (Stinger)	Linear	1.2	Air	Air	2.0	10 Amps @ 220 V
DSS-220VH/6-1	Switching	1	Air	Air	5	22 Amps @ 220 V
DSS-330VH/6-2	Switching	2	Air	Air	5.5	25 Amps @ 220 V
DSS-440VH/6-2	Switching	2	Air	Air	6.5	30 Amps @ 220 V
DSS-660VH/7-3	Switching	3	Air	Air	7.5	34 Amps @ 220 V
DSS-1300VH/8-6	Switching	6	Air	Air	21	26 Amps @ 460 V
DS-440VH/9-2	Switching	2	Air	Air	6.5	30 Amps @ 220 V
DS-660VH/9-3	Switching	3	Air	Air	7.5	34 Amps @ 220 V
DS-1300VH/9-6	Switching	6	Air	Air	21	26 Amps @ 460 V
DS-2200VH/8-10	Switching	10	Air	Air	28	35 Amps @ 460 V
DS-2200VH/9-10	Switching	10	Air	Air	28	35 Amps @ 460 V
DS-3300VH/12-15	Switching	15	Air	Air	41	52 Amps @ 460 V
DS-4400VH/12-20	Switching	20	Air	Air	46	59 Amps @ 460 V
DS-6600VH/14-30	Switching	30	Air	Air	63	80 Amps @ 460 V
DS-6600VH/12-30	Switching	30	Air	Air	63	80 Amps @ 460 V
DS-9000VH/14-40	Switching	40	Air	Air	73	92 Amps @ 460 V
DS-9000VH/17-40	Switching	40	Air	Air	73	92 Amps @ 460 V
DS-12000VH/17-50	Switching	50	Air	Air	86	108 Amps @ 460 V
DS-13000VH/17-60	Switching	60	Air	Air	97	122 Amps @ 460 V
DS-16000VH/17-80	Switching	80	Air	Air	117	147 Amps @ 460 V
DS-22000VH/19-130	Switching	130	Air	Air	170	214 Amps @ 460 V
DS-36000VH/23-160	Switching	160	Air	Water	305	383 Amps @ 460 V
DS-40000VH/23-200	Switching	200	Air	Water	345	433 Amps @ 460 V



#### NOTES:

- All Ratings based on ISO-5344
   Useable frequency dependent upon test level and payload
   System performance curves available upon request
   Specifications subject to change without notice





#### **PERMANENT MAGNET SHAKERS\***

#### Conservative rugged designs deliver trouble free operation.

Small Permanent Magnet Systems	VTS 40	VTS 65	VTS 80	VTS 100	VTS 150		
LOW COST, LOW FORCE VIBRATION SYSTEMS							
Peak Sine	40 lbf	40 lbf 65 lbf 80 lbf 100 lbf 150 lbf					
Amplifier Cooling Fan		INCLUDED					
Vibrator Cooling Fan	N/A		INC	CLUDED			
Stroke (p-p)	.75″	.75" .75" .75" 1.0"					
Velocity	35 ips	70 ips 80 ips 100 ips			70 ips		
Max. Acceleration (bare table)	60g	100g	115g	150g	210g		
Armature Weight	.66 lbs	.66 lbs .70 lbs .66 lbs .71 lb			.71 lbs		
Suspension Stiffness	40 II	bs./in (optior	ns available	for larger pay	/loads)		
First Major Resonance	4500 Hz		4500 Hz	5400 Hz			
Frequency Range	2-6500 Hz 2-8500 Hz						
Nominal Impedance	6 Ohms						
Power Requirements	4A/120V 2A/240V	14A/120V 8A/240V	18A/120V 10A/240V	18A/120V 10A/240V	28A/120V 15A/240V		

<sup>\*</sup>The vibrators from 40 lbf to 100 lbf peak sine force have permanent magnet fields. The 150 lbf peak sine force system has field coils and also is supplied with a DC power supply.

#### **ALL Systems include:**

- Vibrator with trunnion base
- Low-distortion linear amplifier
- Fan amplifier cooling
- Cables and hoses where required



## **SWITCHING AMPLIFIERS with IGBT technology**

All DYNAMIC SOLUTIONS shaker systems are supplied with highly efficient digital switching power amplifiers. Our SA amplifiers use quality components and the latest in design engineering to guarantee you a system that is built to operate

efficiently and reliably for years to come.



DYNAMIC SOLUTIONS Amplifiers use insulated-gate bipolar transistors (IGBT), which are a workhorse of a semiconductor. Capable of blocking extremely high voltages and conducting high currents with low losses, it is the switching element of choice for rugged applications where component failure is not allowable. IGBTs provide

substantial advantages in terms of peak current ratings – this translates directly into reliability especially for random and shock test applications.

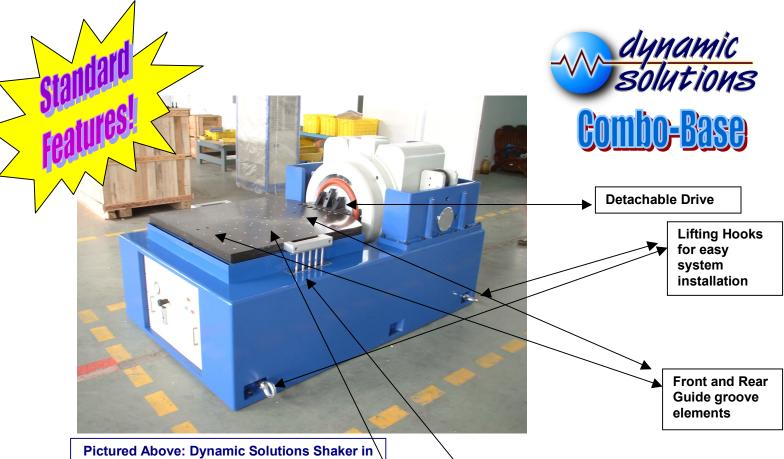
It will substantially outperform the nearest equivalent MOSFETs on the basis of:

- Silicon efficiency
- Thermal characteristics
- Power-conversion efficiency
- Peak current carrying capability 5 to 1 versus 3 to 1 on MOSFET's
- □ Higher switching frequency
- □ State of the art components versus 1980's technology
- □ Reduced waveform distortion
- Reliability





DYNAMIC SOLUTIONS Amplifiers can also be purchased separately to replace other manufacturer's older generation AB, C and MOSFET style D class Amplifiers



Pictured Above: Dynamic Solutions Shaker in Standard Combo Base with Guided Oil Film Table

Additional alignment/guidance mechanism

Dynamic Solutions shaker systems are now available in low-cost Combobases loaded with STANDARD features!

**Anodized Magnesium Plate** for increased durability



Hand Crank for Easy Shaker Rotation

3/8-16 UNC INSERTS are STANDARD! 4" Grid and Armature Bolt Pattern

Oil Pressure, Fliud level and Slip Table Monitoring Panel







- Four Channels
- Swept Sine
- Random
- Classical Shock
- Built-in Current Source

- High Reliability
- Ease of Use
- Competitive Pricing

The DVC-4 provides a PC-based four channel vibration control solution that is as easy to install as to operate. The DVC-4 circuitry is contained in an external box that interfaces with your computer through a single PCI I/O card. The friendly Windows interface simplifies the task of inputting your profile and makes operating your shaker a snap. With the DVC-4 your PC is effortlessly transformed into a virtual instrument that displays panel functions on screen in a familiar format that is accessible to experienced lab techs as well as to new users.

- Computer Requirements: Pentium 70 or better with VGA display, 16 Mb ram, 6 Mb of hard disk space and one free PCI slot. A Pentium 166 and 32 Mb ram recommended.
- Parameters of the test profile (or sweep) and system response are displayed for convenient test monitoring
- Power Requirements: Powered by computer bus, < 10 W required.</li>
- Test profiles and test results can be stored, and hard copies can be printed
- Size: Controller Box- 1.5" H x 7.25" W x 15" D, PCI card-4.5" x 4.5".
- Incorporates constant current source for accelerometers with built-in charge converter

- Connection: Via DB-37 connectors and cable from computer to controller box and BNC connectors to signals. Optional remote control connections via 6 pin Molex connector.
- · English and metric units selection
- · On-line manual in Help screen
- · Selectable abort limits protect the test item
- · Operation by mouse or keyboard
- · Demo mode for training use

The digital package is programmed for Windows and will operate any vibration system. The package includes: Controller box with PCI I/O card and connecting DB-37 cable and installation software. **DEMO Software available upon request.** 

Sales:

sales@dynsolUSA.com

**Dynamic Solutions** 

818.831.0832 www.dynsol*USA*.com Support:

waynepauley@usa.net

Vibration World

305.664.8661

www.vibrationworld.com

For applications requiring advanced control options, Dynamic Solutions offers controllers from Vibration Research Corp., M+P, and Spectral Dynamics. Please call to determine the best controller for



# SHOCK TESTERS

## DYNAMIC SOLUTIONS offers a variety of shock testers for ASTM and ISTA package testing and product fragility testing including:

INCLINE TESTERS	Used to simulate the handling of crates, palletized loads and rail car carriers for ASTM D880 testing. Product mounts to a wheeled carriage, guided by steel rails inclined at 10° slope.
PACKAGE DROP TESTERS	Used to test a package's ability to withstand impacts from various heights and precise angles.
FREE FALL SHOCK TESTERS	Used to produce classical shock wave shapes. Product mounts to a dropping table supported on its side by Rods and Bearings.
BUMP SHOCK TESTERS	Used to produce various shock pulses and waveforms in the vertical direction by forcing the carriage on which the product mounts to impact on the shock machine base



DYNAMIC SOLUTIONS Incline Testers are available in three standard models. All models meet ISO224-1972(E).

Shaker Model	DS-I440	DS-I660	DS-I1100				
INCLINE TESTERS							
Mounting Area	1000 x 1000 mm	1800 x 1800 mm	1800 x 1800 mm				
Maximum Payload 440 lbs.		660 lbs.	1100 lbs.				
Shock Velocity (≤5%) 0.59-2.35 m/s		0.59-2.35 m/s	0-80 m/s				
Maximum Slip Length 6.5 feet		6.5 feet	5 feet				
Size of Machine L x W x H mm 8740 x 1500 x 1730		6500 x 2130 x 2670	8000 x 1600 x 2100				



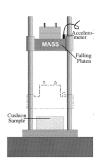


Shaker Model	DS-PD65 DS-PD5		DS-PD4			
PACKAGE DROP TESTERS						
Drop Height Range	1 – 6.5 feet	0-4 feet				
Max. Payload	220	lbs.	440 lbs.			
Max. Package Size L x W x H		x 1000 mm 5 x 39.3 in.	1200 x 1200 x 1200 mm 47.2 x 47.2 x 47.2 in.			
Table Size L x W x H	66.9 x 47	00 x 20 mm .2 x .78 in.	1400 x 200 x 60 mm 55.1 x 78.7 x 2.3 in.			
Size of Machine L x W x H mm	1700 x 1200 x 2817 mm 66.9 x 47.2 111.3 in.	1700 x 1200 x 2512 mm 66.9 x 47.2 x 98.9 in.	1400 x 2000 x 1800 mm 55.1 x 78.7 x 70.9 in.			
Speciman Attitude	Cornerwise, Edgewise and Flat					

DYNAMIC SOLUTIONS Package Drop Tester is available in three standard drop height configurations:

DYNAMIC SOLUTIONS offers a heavy duty and light weight version of our Free-fall drop shock tester.

Shaker Model	DS-LWFF	DS-HWFF				
FREE FALL SHOCK MACHINES						
Size of the Table	116 x 100 mm	480 x 500 mm				
Maximum Payload	4.4 lbs.	440 lbs.				
Acceleration Level	20 - 122 g	16 - 612 g				
Wave Form	Half-Sine	Half-Sine; Sawtooth				
Pulse Duration	0.5 - 11 ms	1 - 30 ms				
Size of Machine L x W x H mm	700 x 400 x 2120	1280 x 950 x 2800				







#### **DYNAMIC SOLUTIONS offers Bump Shock Testers in five standard sizes.**

Shaker Model	DS-PS110	DS-PS220	DS-PS440	DS-PS1100	DS-PS2200		
BUMP SHOCK MACHINES							
Size of the Table L X W	500 x 700 mm 800 x 600mm 1000 x 1000mn 19.7 x 27.6 in. 31.5 x 23.6 in. 39.4 x 39.4 in.						
Maximum Payload	110 lbs.	220 lbs.	440 lbs.	1100 lbs.	2200 lbs.		
Displacement			60-100 mm 2.3 to 3.9 in.				
Bump Frequency (times per minute)	0 – 80						
Peak Acceleration	5 - 200 g	5 – 50 g	5 - 50 g	5 - 50 g	5 - 50 g		
Pulse Duration	50 – 2 ms	50 – 2 ms	50 – 2 ms	50 – 2 ms	50 – 2 ms		
Cross-axis Ratio	≤30%	≤30%	≤30%	≤30%	≤30%		
Acceleration Uniformity	≤20%	≤20%	≤20%	≤20%	≤20%		
Size of Shaker L x W x H mm	1000 x 1300 x 1900	1000 x 1400 x 2200	1000 x 1400 x 2200	1000 x 1300 x 1900	1000 x 1400 x 2200		
Weight of Shaker	2160 lbs.	2160 lbs.	2755 lbs.	6173 lbs.	7716 lbs.		
Continuous Operation	8 Hours	8 Hours	8 Hours	8 Hours	8 Hours		



## RECONDITIONED EQUIPMENT WITH WARRANTY

- GREAT SYSTEMS IN-STOCK NOW!
- INVENTORY CHANGES FREQUENTLY
- IF WE DON'T HAVE IT WE'LL FIND IT
- CUSTOM MODIFICATIONS ARE NO PROBLEM
- WE GUARANTEE YOUR SATISFACTION!











#### **EQUIPMENT REPAIR & MAINTENANCE SERVICES**



FAST RESPONSE and QUALITY WORKMANSHIP...
That's what you want and that's what you will get when you call DYNAMIC SOLUTIONS.

# WE SERVICE ALL MAKES AND MODELS OF SHAKERS AND AMPLIFIERS!

DYNAMIC SOLUTIONS can trouble shoot your problem over the phone – often resolving your problem without ever costing you a nickel! When field

service is required, we can repair your dynamic test equipment efficiently and affordably through our extensive network of qualified regional subcontractors. DYNAMIC SOLUTIONS conducts regular quality audits and only uses experienced, knowledgeable technicians.

DYNAMIC SOLUTIONS can also often upgrade your existing test system to meet today's new standards including replacing old linear and/or tube style amplifiers with compact and efficient air cooled amplifiers, increasing stroke capability from 1" to 2" peak to peak displacement and replacing antiquated control systems with new, state-of-the art, PC based controllers.

Upon your request, our engineers will evaluate your system and recommend modifications to optimize its performance.



#### Our Services include:

#### EXPERT INSTALLATION AND TRAINING SERVICES

#### Customer Satisfaction Guarantee...

Our years of experience have established us as responsive and committed to our customer's satisfaction. Your phone calls and inquiries will be responded to promptly –both before and after you purchase a system – Guaranteed!

(References Available Upon Request)



#### TRAINING AND CONSULTING



From the moment you decide to add dynamics capabilities to your test lab, we can help. DYNAMIC SOLUTIONS will help you to carefully and thoroughly evaluate your test requirements to make certain you are purchasing the best solution for your needs.

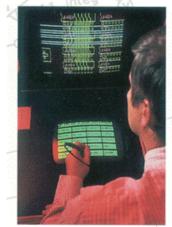
877-767-7077

Call today for a **FREE** copy of our shaker selection guide.

Whether you plan to purchase a DYNAMIC SOLUTIONS test system or equipment from another manufacturer, DYNAMIC SOLUTIONS can help you to anticipate facility requirements, installation issues and system expandability concerns.

"Operator Error" is the most common cause for system failures. DYNAMIC SOLUTIONS training can help to avoid common costly mistakes. DYNAMIC SOLUTIONS training and consulting services will provide your technicians and engineers with the hands on information they need to perform the tests your programs require. DYNAMIC SOLUTIONS training programs will cover basic vibration theory, how the equipment operates and some basic maintenance and safety procedures that will protect your equipment and your personnel.

All training is done by experienced professionals with decades of lab experience.



# Our Services include: EXPERT INSTALLATION AND TRAINING SERVICES

DYNAMIC SOLUTIONS will custom tailor a training program to fit your budget and the needs and experience levels of your lab technicians. Cost effective and convenient, call us today and inquire about having one of our consultants on-site at your facility.

We now also offer low-cost web-based customized instruction. Call today for details!



# WEB-BASED CUSTOM DESIGNED TRAINING



- Customized training presentations address your lab's specific needs
- Live Instructor
- No travel expenses
- 100% Interactive
- Can train multiple locations simultaneously
- LOW COST





**ALWAYS RELIABLE AND AFFORDABLE** 

## www.dynsol*USA*.com

Sales Office: P.O. Box 7963 • Northridge, CA • 91327 2273 South Vista Avenue, Unit #3C • Bloomington, CA • 92316 PHONE 818.831.8032 • FAX 818.831.0842 • TOLL-FREE 877.767.7077