

ELECTRODYNAMIC SHAKERS & CONTROLLERS

Feed-back controlled

MEDVB-Series

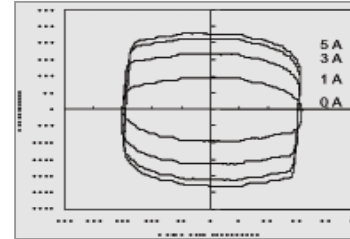
Introduction:

MEDVB series of electrodynamic shakers & controllers are available in (0.01-500,000.0 n) and upto 800 kilo watts in more than 100 different models with different coupling schemes meeting all operational requirement of packaging reliability, yarn, petrochem, hoist, automobile, robotic, semiconductors industries, heavy electrical/mechanical engineering, solid state physical applications, seismic simulation, vibration control applications, structure reliability simulation, precious metal industries, avionics, railway automation/protection and many other research & development applications. Updated design topology ensures better controllability and efficiency with additional integrated control/protection. Company offers tailor made solution to custom requirement.

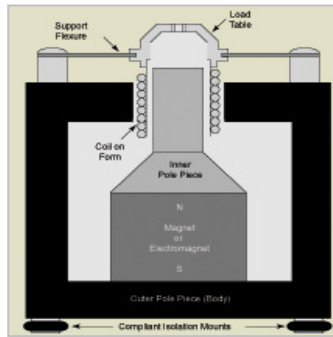
Operating Principle:

In these exciters, a periodical current carrying coil when placed laterally under the influence of stable magnetic field as shown, exerts a Fleming force on the load which is connected to the coil through the leaf spring. This force transmits a forced displacement on the load at excitation frequency. These shakers may operate either in periodical or impulse excitation mode. The amount of energy injected into the payload is controlled by varying the excitation current or its frequency. Force generated in shaker is elementary given as under...

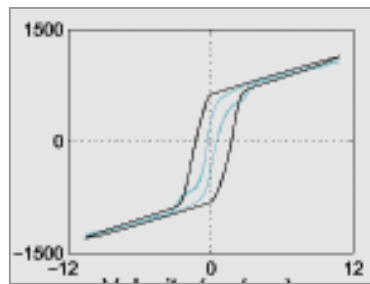
$$F = I \times B \times L \quad I = \text{current, } B = \text{magnetic field, } L = \text{conductor length}$$



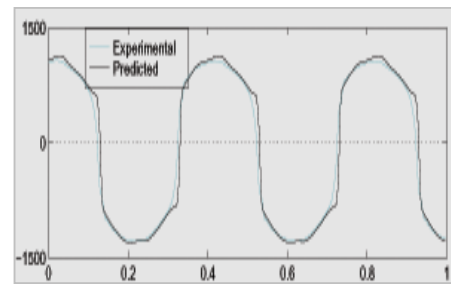
Force Vs displacement



Sectional view of shaker



force Vs velocity



excitation force Vs real time

Specification of Electrodynamic shakers & controllers:

Model	Power watts	Force kgf	Amplitude m.m.	Frequency k.hz	Cooling	Model	power watts	Force Kgf	Amplitude K.Hz	frequency k.hz	cooling
MEDVB-000310	300.0	0.60	5.0	10.0	Air	MEDVB-012007	12,000.0	17.1	10.0	7.0	Air
MEDVB-000610	600.0	01.2	5.0	10.0	Air	MEDVB-015006	15,000.0	10.7	20.0	6.0	Air
MEDVB-001210	1200.0	01.2	10.0	10.0	Air	MEDVB-020006	20,000.0	16.6	20.0	6.0	Air
MEDVB-002008	2000.0	02.0	20.0	8.0	Air	MEDVB-030006	30,000.0	50.0	10.0	6.0	Air
MEDVB-003008	3000.0	02.4	25.0	8.0	Air	MEDVB-075006	75,000.0	62.5	20.0	6.0	Air
MEDVB-004008	4000.0	03.2	25.0	8.0	Air	MEDVB-150005	150,000.0	150.0	20.0	5.0	water
MEDVB-005007	5000.0	04.7	10.0	7.0	Air	MEDVB-300005	300,000.0	300.0	20.0	5.0	Water
MEDVB-006007	6000.0	05.7	15.0	7.0	Air	MEDVB-600004	600,000.0	750.0	20.0	4.0	Water
MEDVB-007507	7500.0	05.3	20.0	7.0	Air	MEDVB-120004	120,000.0	1500.0	20.0	4.0	Water
MEDVB-009007	9000.0	06.4	20.0	7.0	Air	MEDVB-240004	240,000.0	3000.0	20.0	4.0	Water
MEDVB-010007	10000.0	14.2	10.0	7.0	Air	MEDVB-400004	400,000.0	6000.0	20.0	4.0	water

High Frequency Electrodynamic Controller Specification:

Operating voltage 220 volts/ (1/3 phase), 50 hz, or 48/72/96 D.C.
 Output current/voltage 0-400 volts/800.0 amps A.C.(max)
 Switching frequency 20.0 – 200,000Hz
 Force/displacement control accuracy 99.9% of set point
 Force/displacement control step down ratio 1:100
 Current/Voltage Ripple 10.0 volts/amps to 100 micro volts/amps
 Response time 0.5 – 1.1 mill-seconds
 Interface Signal 0.0-12.0 volts D.C./4.0-20.0 mili amps
 Power factor/harmonics 0.95(lagg)/ less than 3% of first harmonics
 Control cascade feedback control with soft start
 Display Voltage/current/kilowatt in 3½ red glow LED display
 Protection over voltage/short ckt & inline surge protection.

Tailor made specification shaker controllers are also offered.

High Frequency Electrodynamic Shaker Controllers Dimension:

MEDVBC-000310	08X06X06	MEDVBC-012007	14X12X12
MEDVBC-001210	10X06X06	MEDVBC-015006	16X14X14
MEDVBC-002008	12X08X08	MEDVBC-020006	18X16X16
MEDVBC-003008	12X10X10	MEDVBC-030006	20X18X18
MEDVBC-005007	12X10X10	MEDVBC-075005	20X18X18
MEDVBC-007507	12X10X10	MEDVBC-150005	20X18X18
MEDVBC-009007	08X06X06	MEDVBC-300005	14X12X12
MEDVBC-010007	10X06X06	MEDVBC-600004	16X14X14
MEDVBC-012007	18X16X14	MEDVBC-240004	18X16X16

Three numerals after MEDVBC indicate powerx100 of controller/shaker and last two-digit Indicates frequencyx1000. All dimensions are inches.



MEDVB-007507

MOTORON SEMICONDUCTORS CORPORATION

11, Shri nagar colony, shakti nagar extension, DELHI-110052. Tel: 011-23648181/23655454 fax: 011-23585424, e.mail: motoronenergy@hotmail.com

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Feed-back controlled

MEDVB-Series



MEDVB-240004



MEDVB-600004



MEDVB-300005



MEDVB-600004

Specification of Electromagnetic shakers & controllers:

Model	Power Watts	Volts D.C.	Current D.C.	frequency k.hz	Cooling	Model	power watts	Volts D.C.	Current D.C.	frequency k.hz	cooling
MEDVB-000310	300.0	200.0	01.5	10.0	Air	MEDVB-012007	10,000.0	400.0	25.0	7.0	Air
MEDVB-000610	600.0	200.0	03.0	10.0	Air	MEDVB-015006	15,000.0	400.0	37.5	6.0	Air
MEDVB-001210	1200.0	200.0	06.0	10.0	Air	MEDVB-020006	20,000.0	400.0	50.0	6.0	Air
MEDVB-002008	2000.0	200.0	10.0	8.0	Air	MEDVB-030006	30,000.0	400.0	75.0	6.0	Air
MEDVB-003008	3000.0	200.0	15.0	8.0	Air	MEDVB-075006	75,000.0	400.0	187.5	6.0	Ar
MEDVB-004008	4000.0	200.0	20.0	8.0	Air	MEDVB-150005	150,000.0	500.0	300.0	5.0	Water
MEDVB-005007	5000.0	200.0	25.0	7.0	Air	MEDVB-300005	300,000.0	500.0	600.0	5.0	Water
MEDVB-006007	6000.0	200.0	30.0	7.0	Air	MEDVB-600004	600,000.0	600.0	100.0	4.0	Water
MEDVB-007507	7500.0	200.0	35.5	7.0	Air	MEDVB-120004	120,000.0	600.0	200.0	4.0	Water
MEDVB-009007	9000.0	200.0	45.0	7.0	Air	MEDVB-240004	240,000.0	600.0	400.0	4.0	Water

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