

# VIBRATION MITIGATED WORKSTATION TABLES

Feed-back controlled

MVMWT-Series

**Introduction:**

MVMWT series of vibration mitigated workstations platforms are in various payload capacities (100- 15,000 kgf) and differential vibration displacement level ranging from 100 nanometer. to 2.0 m.m. with varying vibration inertia. These uses feedback controlled eddy current/hysteresis and M.R. Bases dampers to tackle different compositions of vibration energy to ensure A vibration mitigated solution. These workstations finds applications in optics, micromaching, 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 vibration controllability with additional integrated control/protection. Company offers tailor made solution to custom requirement.

**Operating Principle:** These vibration mitigation devices workstation uses controlled eddy current dampers/hysteresis damper and m.r. dampers have different vibration energy absorption capability holding different stiffness. Normally hysteresis /eddy current damper mitigates in ultra low vibration energy with low vibration displacement and high velocity/frequency. Where as Magneto-rheological damper mitigates high vibration energy with larger vibration displacement and low velocity. This ability of variable damping makes it possible to mitigate spatial vibration to as much as 10 nanometer in two or three cycle. Care full selection/mounting of such dampers on workstation ensures a more or less critically damped surface with negligible or undetected spatial vibrational phase shift( on account of vibration interference). Such result are not possible with pneumatically/ hydraulically controlled surfaces where large compressors it self are the source of unmitigated vibration.



MVMW-000310L



MVMW-002008H



MVMW-010007L

**Specification of vibration mitigated workstation controllers:**

**Low force/Low amplitude**

**low force/high amplitude**

Model	Power watts	Force Kgf/10	Amplitude Micro. meter	Frequency k.hz	Coolin g	Model	power watts	Force Kgfx10	Amplitude Micro. meter	frequency k.hz	cooling
MVMW-000310L	300	0.60	5.0	10.0	Air	MVMW-000310H	300	17.1	10.0	7.0	Air
MVMW-000610L	60.0	01.2	5.0	10.0	Air	MVMW-000610H	60.0	10.7	20.0	6.0	Air
MVMW-001210L	120.0	01.2	10.0	10.0	Air	MVMW-001210H	120.0	16.6	20.0	6.0	Air
MVMW-002008L	200.0	02.0	20.0	8.0	Air	MVMW-002008H	200.0	50.0	10.0	6.0	Air
MVMW-003008L	300.0	02.4	25.0	8.0	Air	MVMW-003008H	300.0	62.5	20.0	6.0	Air
MVMW-004008L	400.0	03.2	25.0	8.0	Air	MVMW-004008H	400.0	150.0	20.0	5.0	water
MVMW-005007L	500.0	04.7	10.0	7.0	Air	MVMW-005007H	500.0	300.0	20.0	5.0	Water
MVMW-006007L	600.0	05.7	15.0	7.0	Air	MVMW-006007H	600.0	750.0	20.0	4.0	Water
MVMW-007507L	750.0	05.3	20.0	7.0	Air	MVMW-007507H	750.0	1500.0	20.0	4.0	Water
MVMW-009007L	900.0	06.4	20.0	7.0	Air	MVMW-009007H	900.0	3000.0	20.0	4.0	Water
MVMW-010007L	1000.0	14.2	10.0	7.0	Air	MVMW-010007H	1000.0	6000.0	20.0	4.0	water

**Feedback controlled vibration mitigated tables/workstation**

**Operating voltage** 220 volts/ (1 phase), 50 Hz, or 48/72/96 D.C.

Switching frequency 20.0 – 200,000Hz

Force/displacement control accuracy 99.9% of set point afteradjustment

Force/displacement control step down ratio 1:100

Force/displacement beats for unit response;10.0 nano-meter/ 100 micro newton

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/displacement - 3½ red glow LED display

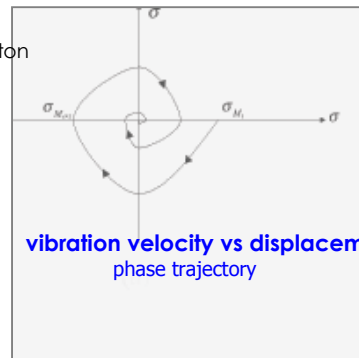
Protection over voltage/short ckt & inline surge protection.

Tailor made specification shaker controllers are also offered.

**High Frequency Electrodynamic Shaker Controllers Dimension:**

MVMWC-000310	08X06X06	MVMWC-012007	14X12X12
MVMWC-001210	10X06X06	MVMWC-015006	16X14X14
MVMWC-002008	12X08X08	MVMWC-020006	18X16X16
MVMWC-003008	12X10X10	MVMWC-030006	20X18X18
MVMWC-005007	12X10X10	MVMWC-075005	20X18X18

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



**MOTORON SEMICONDUCTORS CORPORATION**

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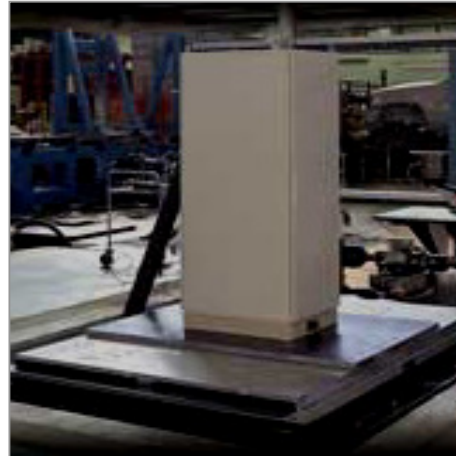
# VIBRATION MITIGATED WORKSTATION TABLES

Feed-back controlled

MEDVB-Series



MVMW-240004



MVMW-600004

## High force/low amplitude

## high force/high amplitude

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MVMW-000310L	300	0.60	5.0	10.0	Air	MVMW-000310H	300	17.1	10.0	7.0	Air
MVMW-000610L	60.0	01.2	5.0	10.0	Air	MVMW-000610H	60.0	10.7	20.0	6.0	Air
MVMW-001210L	120.0	01.2	10.0	10.0	Air	MVMW-001210H	120.0	16.6	20.0	6.0	Air
MVMW-002008L	200.0	02.0	20.0	8.0	Air	MVMW-002008H	200.0	50.0	10.0	6.0	Air
MVMW-003008L	300.0	02.4	25.0	8.0	Air	MVMW-003008H	300.0	62.5	20.0	6.0	Air
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MVMW-005007L	500.0	04.7	10.0	7.0	Air	MVMW-005007H	500.0	300.0	20.0	5.0	Water
MVMW-006007L	600.0	05.7	15.0	7.0	Air	MVMW-006007H	600.0	750.0	20.0	4.0	Water
MVMW-007507L	750.0	05.3	20.0	7.0	Air	MVMW-007507H	750.0	1500.0	20.0	4.0	Water
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