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Mechanical Shakers

Mechanical Shaker: Vertical/Horizontal

SALIENT FEATURES

VERTICAL OR HORIZONTAL MOTION: Each machine may be adjusted to produce either vertical or horizontal motion with a simple change in the mass to mass vectoral relationship.

RELIABILITY SHAKER: Moderate vibration level shaker designed for production line demonstration of end item reliability and longevity testing per AGREE Spec MIL-STD-781B, MIL-STD-167 and many other Military Or Commercial Testing Specifications. Shaker may be Mated to AGREE Chambers for combined Temperature-Vibration Testing.

FATIGUE SHAKER: A high level vibration shaker designed to perform vibration endurance testing over extended periods of time.

FREQUENCY RANGE: The standard shaker provides a frequency range of 8 to 60 Hz adjusted electronically while the machine is operating.

SIMPLE AMPLITUDE ADJUSTMENT: Moving element consists of two counter- rotating eccentric weighted shafts driven by an electric motor. Amplitude of motion precisely adjusted. Easy access to all adjustments through removable panels. Shaker does not have to be removed from chamber to make adjustments

HEIGHT: May be specified to match chamber requirements Of 30 to 40 inches. Height may be adjusted + 1 inch from the specified dimension.

LEVELING: Leveling screws provide for complete horizontal plane adjustment of the shaker table top

PHASE-LOCK: Every machine is provided with PHASE-LOCK adjustments to compensate for the horizontal moment created when any Reaction Shaker is operated in the horizontal mode.

DAMPING: Friction damping to prevent large table or specimen transient excursions during start and stop of operation

POWER: 208, 230, 380, 460 Volt 3 phase, 50/60 Hz

NO FOUNDATION REQUIRED: Shaker is Reaction type with self contained coil springs to isolate the shaker and test load from its base. The shaker may be operated on any floor capable of carrying the dead weight loading. No air bags to accidentally deflate during operation.

ADAPTABLE: The carefully machined aluminum top can be directly fitted to all commercial environmental AGREE chambers.

HEAT LOSS: Insulated table top to prevent excessive heat flow in and out of the chamber can be provided.

CASTER OPTIONS: 1) V-Groove Casters with 10 feet of track allow easy installation and removal of the shaker from the test chamber; and 2) Rubber Casters for machine portability. Both types of casters are supplied with brakes.

HOLE PATTERN: 3/8-16 threaded holes on a 6 inch pattern in the table top provide attachment points for test loads

LOW COST: Equivalent performance in an electrodynamic vibration shaker system costs many times more than a mechanical reaction shaker.



Model Number	Reaction	MAXIMUM DISPLACEMENT				MAXIMUM ACCELERATION					
		Table Size (Payload)	Moment in-lbs	Reliability (R)		Fatigue (F)		Reliability		Fatigue	
				Bare Table	Full Payload	Bare Table	Full Payload	Bare Table	Full Payload	Bare Table	Full Payload
				in (da)	in (da)	in (da)	in (da)	(g)	(g)	(g)	(g)
411 Series											
3030 (500) VH	70	.237	.128	.237	.128	10.0	5.8	10.0	7.3		
3048 (500) VH	70	.217	.122	.217	.122	9.9	5.5	10.0	6.9		
3636 (500) VH	70	.222	.123	.222	.123	10.0	5.6	10.0	7.0		
4848 (500) VH	70	.191	.113	.191	.113	8.7	5.2	10.0	6.5		
4848 (1000) VH	70	.191	.081	.191	.081	8.7	3.6	10.0	4.6		
4860 (500) VH	70	.164	.103	.164	.103	7.5	4.7	9.4	5.9		
4860 (1000) VH	70	.164	.075	.164	.075	7.5	3.4	9.4	4.3		
4866 (1000) VH	70	.159	.074	.159	.074	7.2	3.4	9.0	4.2		
6060 (1000) VH	70	.147	.072	.147	.072	6.7	3.2	8.4	4.1		
Dual 311 Series											
3060 (500) VH	70/105	.140	.093	.210	.140	6.4	4.2	8.0	5.2		
3060 (1000) VH	70/105	.140	.070	.210	.105	6.4	3.2	8.0	4.0		
3660 (500) VH	70/105	.134	.091	.201	.137	6.1	4.1	7.6	5.1		
3660 (1000) VH	70/105	.134	.068	.201	.102	6.1	3.1	7.6	3.8		
3696 (500) VH	70/105	.115	.082	.172	.123	5.2	3.7	6.5	4.6		
3696 (1000) VH	70/105	.115	.063	.172	.094	5.2	2.9	6.5	3.6		
4848 (500) VH	70/105	.129	.088	.193	.132	5.9	4.0	7.3	5.0		
4848 (1000) VH	70/105	.129	.067	.193	.100	5.9	3.1	7.3	3.8		
4860 (500) VH	70/105	.124	.085	.186	.127	5.6	3.9	7.0	4.9		
4860 (1000) VH	70/105	.124	.065	.186	.097	5.6	3.0	7.0	3.8		
4860 (1500) VH	70/105	.124	.053	.186	.080	5.6	2.4	7.0	3.0		
4866 (1000) VH	70/105	.120	.064	.180	.096	5.4	2.9	6.7	3.6		
4866 (1500) VH	70/105	.120	.052	.180	.078	5.4	2.4	6.7	3.0		
4872 (1000) VH	70/105	.116	.063	.175	.095	5.3	2.9	6.7	3.6		
4872 (1500) VH	70/105	.116	.052	.175	.078	5.3	2.4	6.7	3.0		
4896 (1000) VH	70/105	.103	.059	.154	.089	4.7	2.7	5.9	3.4		
6060 (500) VH	70/105	.122	.084	.183	.126	5.5	3.8	6.9	4.8		
6060 (1000) VH	70/105	.122	.065	.183	.098	5.5	2.9	6.9	3.6		
6096 (1000) VH	70/105	.093	.056	.140	.084	4.2	2.5	5.2	3.1		
Dual 211 Series											
4860 (5000) VH	200/400	.239	.059	.250	.119	8.1	2.0	10.0	2.5		
4866 (5000) VH	200/400	.235	.060	.250	.119	8.0	2.0	10.0	2.5		
4896 (5000) VH	200/400	.190	.056	.250	.113	6.5	1.9	8.1	2.4		
48120 (5000) VH	200/400	.182	.056	.250	.111	6.2	1.9	7.7	2.4		
6060 (5000) VH	200/400	.228	.059	.250	.118	7.8	2.0	9.6	2.5		
6096 (5000) VH	200/400	.182	.056	.250	.111	6.2	1.9	7.8	2.4		
60120 (5000) VH	200/400	.210	.058	.250	.115	7.1	2.0	8.9	2.5		
9696 (6000) VH	400/800	.250	.092	.250	.145	6.3	2.0	6.4	2.9		
9696 (10000) VH	800/800	.250	.106	.250	.106	6.4	2.1	10.0	3.3		
96120 (6000) VH	400/800	.250	.088	.250	.139	5.6	1.9	5.8	2.8		
96120 (10000) VH	800/800	.250	.103	.250	.103	5.8	2.1	9.0	3.2		
120120 (10000) VH	800/800	.250	.100	.250	.100	5.3	2.0	8.3	3.1		
120120 (15000) VH	1000/1000	.250	.095	.250	.095	5.3	1.5	8.3	2.4		
1. If machine is supplied with Insulated Top, maximum Acceleration and Displacement shall be slightly derated.											
2. Other sizes are available upon request.											
3. Larger reaction moments are available to produce greater displacement capabilities.											
4. Specifications are calculated for vertical vibration. PHASE LOCK adjustment for horizontal moment will reduce those calculations											
7602A-02											