



## Vibration testing

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# 1 Testing options

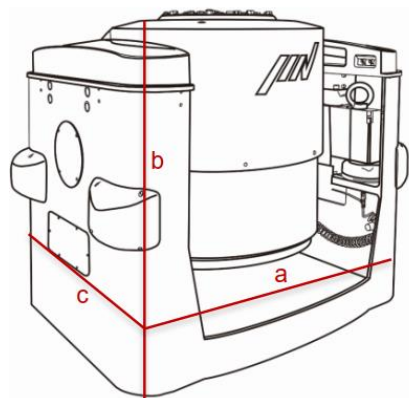
The Laboratory for Dynamics of Machines and Structures possesses three electrodynamic vibration shakers, which are capable of conducting the following vibration tests:

- Random
- Sine on random
- Random on random
- Non-Gaussian (Kurtosis/Skewness control parameters)
- Sine sweep
- Resonance Dwell
- Resonance amplitude search
- Multi-Sweep-Sine
- Shock

More information regarding the shaker capabilities are shown in Chapter 2

## 2 Vibration shakers

### 2.1 IMV A12 shaker with horizontal table



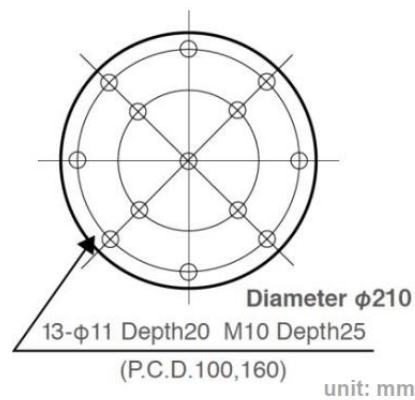
#### Shaker

Model: A12

a: W 946 mm

b: H 827 mm

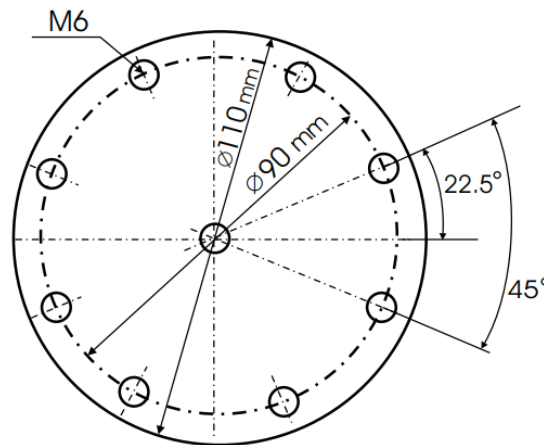
c: D 676 mm





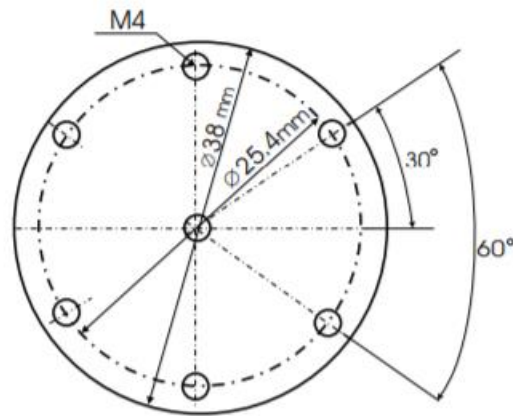
<b>Shaker model</b>		<b>A12/SA1HAM</b>
Max. Frequency [Hz]		4500
Rated force	Sine [kN]	12
	Random [kN rms]	12
	Shock [kN]	24
Max. Acceleration	Sine [ $m/s^2$ ]	1090
	Random [ $m/s^2$ rms]	630
	Shock [ $m/s^2$ ]	2181
Max. Velocity	Sine [m/s]	2
	Shock [m/s peak]	2,5
Max. Displacement	Sine (mm pk-pk)	51
	Max. Travel (mm pk-pk)	64
Max. payload [kg]		200
Power requirement [kVA]		20,4
Armature mass [kg]		11
Armature diameter [mm]		210
Allowable eccentric moment [Nm]		294
<b>Horizontal table type</b>		<b>TBH-6-A12-M-TT</b>
Size [mm]		550 x 550 x 40
Max. Frequency [Hz]		2000
Max. payload [kg]		700
Moving mass [kg]		42
Material		Magnesium
Insert size and pattern		M10 on 100 mm grid
Pitch moment [kNm]		1,1

## 2.2 LDS V55 Shaker



Shaker model		LDS V555
Frequency range [Hz]		5 - 6300
Rated force	Sine [N]	940
	Random [N rms]	636
	Shock [N]	1200
Max. Acceleration	Sine [ $m/s^2$ ]	981
	Random [ $m/s^2$ rms]	677
Max. Velocity	Sine [m/s]	1,5
Max. Displacement	Sine (mm pk-pk)	25,4
Armature mass [kg]		0,94
Armature resonance [Hz]		4850

## 2.3 LDS V406



Shaker model		LDS V406
Frequency range [Hz]		5 - 9000
Rated force	Sine [N]	196
	Random [N rms]	89
Max. Acceleration	Sine [ $\text{m/s}^2$ ]	981
Max. Velocity	Sine [m/s]	1,78
Max. Displacement	Sine (mm pk-pk)	17,6
Armature mass [kg]		0,2