TIRA Schwingtechnik
Vibration Test Systems

Vibration Test System
TV 59335/*-340

DESCRIPTION

TIRA shakers reproduce vibration environment under laboratory conditions for testing the dynamic strength and the reliability in all fields of applications of vibration testing technology.
On laboratory conditions sine, random, mixed-mode and shock tests are reproduced with the help of complete vibration testing systems.
These systems are indispensable in the field of quality assurance, research and development.

TIRA shakers are designed for long-time operation. They are distinguished by their high transverse vibration strength and high axial stiffness.
The electrodynamic shaker stands out for its rugged design and high stiffness. It is pivotally mounted and can be operated in horizontal and vertical direction.
A built-in automatic, pneumatic operated load compensation system allows the realization of the nominal vibration displacement, even with heavy test loads. The transmission of vibrations onto the place of erection can be reduced by an appropriate swivel trunnion (RIT). The trunnion is equipped with air isolation mounts according to standard.
A maintenance-free fan guarantees the cooling of the shaker. The cooling air is sucked in via a filter system. The TIRA "AIT" system is a vibration unit integrated in the frame for guiding the shaker horizontally and vertically. At low frequencies it guarantees the optimum vibration isolation as well as an exact guidance of the shaker body in the direction of the excitation. Low Base "LB" mounted shakers can be fitted with air isolation mounts, wheels and rails and glides if the air isolation option is fitted.
TIRA shakers, amplifiers and vibration control systems represent a complete test system offering the users the possibility to establish proof of the quality of their products according to national and international standards (such as DIN, ISO, BS, MIL, IEC, ASTM).

AMPLIFIER A 3 08 3 060

KVA ratings	57000 VA
Frequency range	DC - 4 kHz
Voltage, max.	150 V
Current, max.	375 A
Load resistance	1 Ohm
Input voltage	2.5/5/10 V
Distortion	< 0.7 %
Signal to noise ratio	> 90 dB
Field voltage, max.	105 V
Field current, max.	75 A
Weight	600 kg (1322.8 lb)
Size (WxHxD)	600 x 2200 x 800 mm (23.6 x 86.6 x 31.5 in)

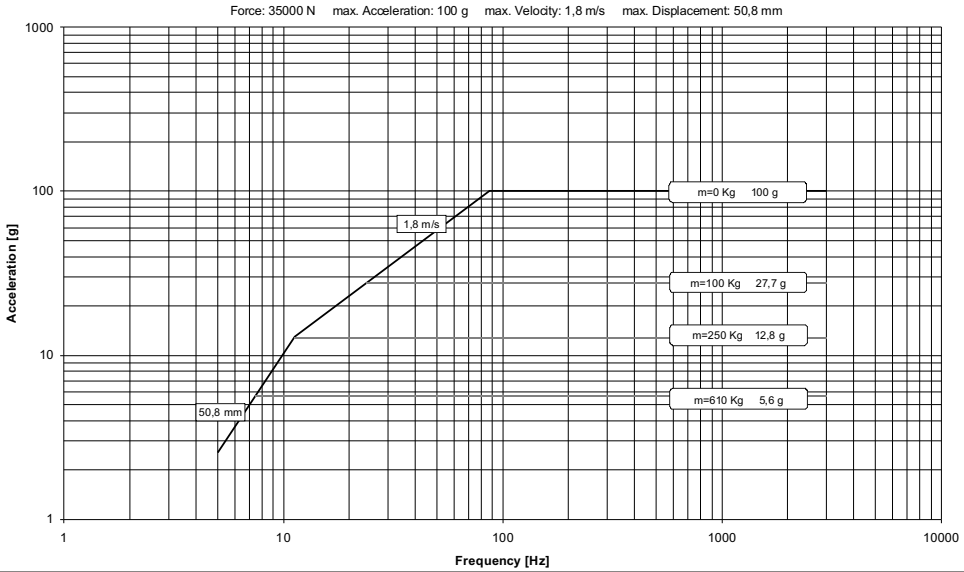
TECHNICAL SPECIFICATION VIBRATION GENERATOR S 59335/*-340

Rated peak force (N|lbf)	Sine/Random/Shock	35000/35000/70000	7868/7868/15737
Frequency range (Hz)		5-3000	5-3000
Max. rated travel (mm|inch)	Pk-Pk	50.8	2.0
Max. velocity (m/sec|inch/sec)	Sine/Random/Shock	1.8/1.8/2.5	71/71/98
Max. acceleration (g)	Sine/Random/Shock	100/100/220	100/100/220
Max. power consumption at 400 V (kVA)		33	33
Nominal impedance (Ohm)		0.3	0.3
Suspension stiffness (N/mm|lbf/inch)		150	856.5
Max. weight tested (kg|lb)		610	1345
Effective moving mass (kg|lb)		29.0	63.9
Main resonance frequency (Hz)		>2400	>2400
Weight with trunnion (kg|lb)	RIT/AIT/LB	2350/2700/2250	5181/5952/4960
Stray magnetic field (mT)	without/with degauss kit	<20/<1	<20/<1
Armature (ø/mm|ø/inch)		340	13.4
Cooling (m^3/h|ft^3/min)		1560	918
Interlocks	Temperature, overtravel, airflow, overcurrent, compressed air		

*RIT, AIT or LB

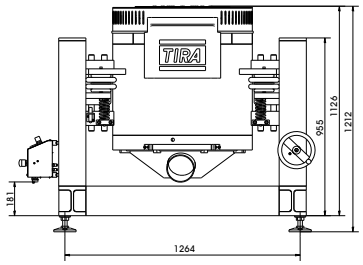
PERFORMANCE DIAGRAM

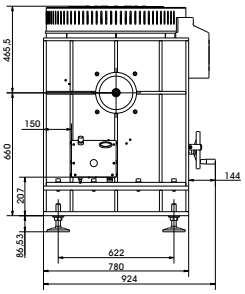
System Performance TV 59335/*- 340

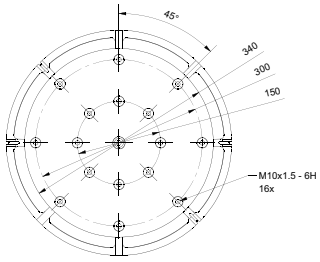


DIMENSIONS (mm)

S 59335/AIT-340 (Example drawing)

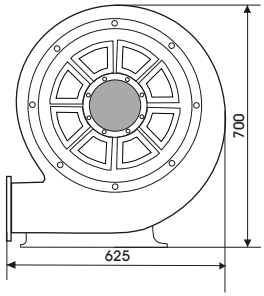






Armature 340

Blower HRD 7/FU/11



Depth 530 mm

Subject to modifications

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