

Vibration Test System TV 50303-120

DESCRIPTION

TIRA shakers reproduce vibration environment under laboratory conditions for testing the dynamic strength and the reliability in all fields of vibration testing.

TIRA shakers are designed for long-time operation. They are distinguished by their high transverse vibration strength and high axial stiffness. The electrodynamic shaker is pivotally mounted in a rugged frame and enables the excitation in vertical and horizontal direction.

An automatic, pneumatic operated load compensation allows the realization of the nominal vibration displacement, even with heavy test loads. The frame is equipped with air isolation mounts according to standard. The transmission of vibrations onto the place of erection is reduced to a minimum; an additional foundation (seismic mass) is not required in most cases. A maintenance-free blower guarantees the cooling of the shaker. The cooling air is sucked in via a filtersystem.

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 1 01 1 003

| | |
|-----------------------|--|
| KVA ratings | 2700 VA |
| Frequency range | DC-4 kHz |
| Voltage, max. | 105 V |
| Current, max. | 25 A |
| Load resistance | 4.2 Ohm |
| Input voltage | 2.5/5/10 V |
| Distortion | <0.5 % |
| Signal to noise ratio | > 90 dB |
| Field voltage, max. | 100 V |
| Field current, max. | 6 A |
| Weight | 234 kg (515.9 lb) |
| Size (WxHxD) | 600 x 1800 x 800 mm (23.6 x 70.9 x 31.5 in) |

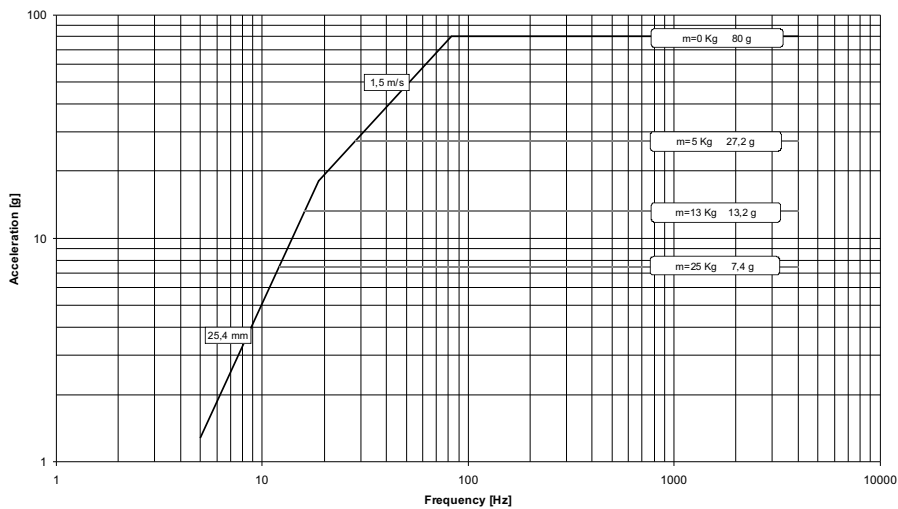
TECHNICAL SPECIFICATION VIBRATION GENERATOR S 50303-120

| | | | |
|--|---|----------------|-------------|
| Rated peak force (N lbf) | Sine/Random/Shock | 2000/1000/4000 | 450/225/900 |
| Frequency range (Hz) | | DC-4000 | DC-4000 |
| Max. rated travel (mm inch) | Pk-Pk | 25.4 | 1.0 |
| Max. velocity (m/sec inch/sec) | Sine/Random/Shock | 1.5/1.5/2.0 | 59/59/79 |
| Max. acceleration (g) | Sine/Random/Shock | 80/40/160 | 80/40/160 |
| Max. power consumption at 400 V (kVA) | | 5 | 5 |
| Nominal impedance (Ohm) | | 4 | 4 |
| Suspension stiffness (N/mm lbf/inch) | | 22 | 125.6 |
| Max. weight tested (kg lb) | | 25 | 55.1 |
| Effective moving mass (kg lb) | | 2.5 | 5.5 |
| Main resonance frequency (Hz) | | >4000 | >4000 |
| Weight with trunnion (kg lb) | | 280 | 617.3 |
| Stray magnetic field (mT) | without/with degauss kit | <8.5/<0.5 | <8.5/<0.5 |
| Armature (∅/mm ∅/inch) | | 120 | 4.72 |
| Cooling (m ³ /h ft ³ /min) | | 100 | 59 |
| Interlocks | Temperature, overtravel, airflow, overcurrent, compressed air | | |

PERFORMANCE DIAGRAM

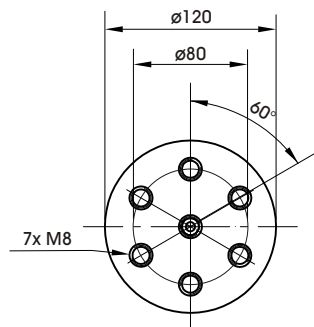
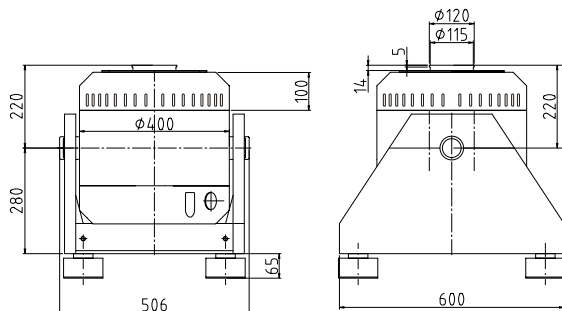
System Performance TV 50303-120

Force: 2000 N max. Acceleration: 80 g max. Velocity: 1.5 m/s max. Displacement: 25.4 mm



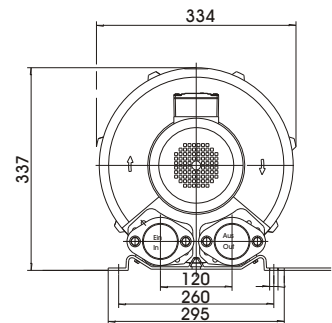
DIMENSIONS (mm)

S 50303-120 (Example drawing)



Armature 120

Blower SB 0200



Depth 314 mm

Subject to modifications