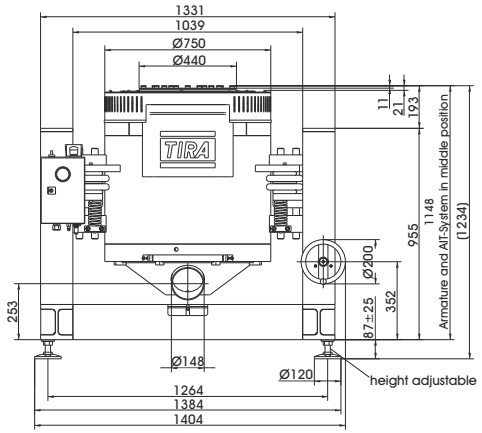
Vibration Test System TV 59335/*-440

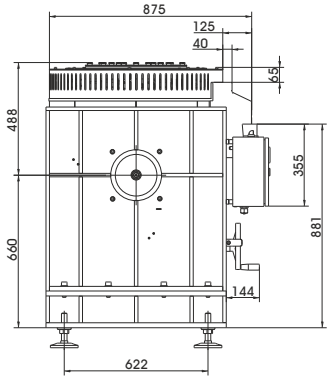
S 59335/AIT-440 (Example drawing) Dimensions in mm

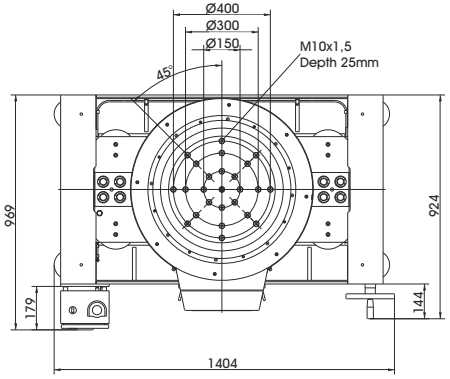
TECHNICAL PARAMETERS Vibration exciter S 59335/*-440

Rated peak force Sine$_{pk}$/Random$_{RMS}$[1]/Shock$_{pk}$[2]	35000/32000/105000 N
Frequency range	5 - 3000 Hz
Main resonance frequency	> 2400 Hz
Max. displacement Peak-Peak[3]	50.8 mm
Max. velocity Sine$_{pk}$/Random$_{RMS}$/Shock$_{pk}$	2.0/1.8/3.0 m/s
Max. acceleration Sine/Random/Shock	100/67/207 g
Suspension stiffness	150 N/mm
Effective moving mass	36.5 kg
Max. payload	610 kg
Total mass with trunnion RIT/AIT/LB*	2350/2700/2250 kg
Magn. stray field std./low degaussing[4]	<1.5/<0.8 mT
Armature diameter	440 mm
Required compressed air supply (load-dependent)	600-1000 kPa
Interlocks	Temperature, displacement, cooling air, overcurrent, compressed air









* RIT, AIT or LB (explanation see TIRA selection guide page 7)

1) System specified according to ISO 5344:2004
2) Theoretical maximum shock value. Depends on payload, amplifier, shock and shock width
3) Optional displacement of 76.2 mm (3 inch) for transient applications, 63.5mm (2.5") for Sine and Random. Impact by moving to static mass and frequency is possible
4) measured at 150 mm above armature inserts

For long-term tests, the load must be reduced to 80 %. Continuous operation at maximum load can cause damage.

SCOPE OF DELIVERY, OPTIONS AND FEATURES OF THE SYSTEM

Scope of delivery:
- Vibration exciter
- Trunnion mount (AIT, RIT or LB)
- Power amplifier
- Cooling blower
- Frequency converter
- Connection cables (each 10 m)
- Power cables (each 10 m)
  - for amplifier (CEE 63 connector) and
  - cooling blower (CEE 32 connector)
- Blower hose ø150 mm (5 m)
- Compressed-air hose NW 7,2 (Standard) (5 m)

Options:
- Different hole pattern of armature
  - (different pitch diameter and/or thread inserts)
  - at customers request
- AIT-trunnion mount
  - with integrated vibration isolation
- RIT-trunnion mount
- LB-frame

Options:
- 3 inch (76.2 mm) displacement
- Dual Bearing armature
- Low degaussing kit to further reduce stray magnetic field
- Squeak&Rattle (Silent operation without blower)
- Wheels&Rails (incl. 3m rails)
- Airglide-option (Shaker movable on air cushions)
- Thermobarrier (-40°C to +140°C)
- Chamber leadthrough
- Climatic chamber support kit
- Remote control (Software)
- ASM-Mode (Auto Shutdown Manager)
- Silencer
  - for cooling blower (Noise reduction 9 - 15 dB(A))
- Acoustic enclosure
  - for cooling blower (Noise reduction 5 - 23 dB(A))
- Water-cooled acoustic enclosure
  - for cooling blower (Noise reduction 30 dB(A))
- Cable extension
- Factory acceptance test

Options:

TIRA EMS Energy Management System

- Operation with temperature-controlled cooling blower (and optional with variable field strength)

Features:
- Vibration isolation < 3 Hz (AIT)
  < 6 Hz (RIT;LB)
- Coarse filter unit
- Fully automatic pneumatic load compensation
- AIT fixable
- Automatic centering of the AIT-System and the armature
- Degauss kit to reduce stray magnetic field
- Made in Germany
- Servicehotline

TIRA GmbH Eisfelder Str. 23/25, 96528 Schalkau, Germany • Phone: +49 36766 280-0 • Fax: +49 36766 280-99 • Internet: www.tira-gmbh.de • Email: st@tira-gmbh.de

© TIRA GmbH • Version 14 - 2026-09-16

Subject to modifications

TIRA Vibration Test Systems TV 59335/*-440

Vibration Test System TV 59335/*-440

TECHNICAL PARAMETERS Amplifier Octopus 63

Output power, max.	39000 VA
Frequency range	DC - 5 kHz
Voltage$_{RMS}$, max.	212 V
Current$_{RMS}$, max.	300 A
Signal input voltage$_{PK}$	±10 V
Total Harmonic Distortion (THD, at 70A$_{RMS}$, 200 Hz)	< 0.2 %
Signal to noise ratio	> 85 dB(A)
Field voltage	105 V
Field current	75 A
Total mass	670 kg
Dimensions (W x H x D)	1200 x 1800 x 800 mm
Power supply (Standard)	3~ / N / PE 400 V±5% 50 Hz, CEE 63
Recommended fuse protection (Standard)	63 A slow
Max. power consumption at 400 V	32 kVA
Interlocks:	Overload, Temperature, Displacement, Cooling air, Compressed air, Phase monitoring, Emergency stop

Features:
Field supply integrated
Mains switch and integrated line filter
Lo-Field/Hi-Field (Energy-saving mode)
Field voltage/Field current variable
according to customer spec.
4 Sigma peak current
Color Touch Screen

TECHNICAL PARAMETERS Cooling blower TB 7/FUK/11

Max. volume flow rate	1920 m³/h
Max. total pressure difference	16 kPa
Motor output	11 kW
Max. frequency	105 Hz
Hose diameter	150 mm
Hose length (Std.)	5 m
Total mass	113 kg
Dimensions (W x H x D)	625 x 775 x 602 mm
Max. sound pressure level	102 dB(A)
Switch box (fixation to wall):	
Mass	10 kg
Dimensions (W x H x D)	300 x 300 x 250 mm
Power supply (variable)	3~ / PE 400 V±5% 50 Hz, CEE 32
Recommended fuse protection (Standard)	32 A slow
Max. current consumption at 400 V	25 A

Options:
Silencer TB 7/FUK-SI (Noise reduction 9 - 15 dB(A))
Dimensions (L x D): 1120 x 280 mm
Mass: 9.2 kg
Acoustic enclosure TB 7/FUK-AE (Noise reduction 5 - 23 dB(A))
Dimensions (W x H x D): 1250 x 1393 x 1470 mm
Mass: 103 kg
Water-cooled acoustic enclosure WWT (Noise reduction 30 dB(A))
Dimensions (W x H x D): 1500 x 2080 x 1200 mm
Mass: 800 kg
Hose length according to customers request (up to 10 m)




Switch box (blower)


Cooling blower TB 7/FUK/11


Silencer TB 7/FUK-SI (optional)


Acoustic enclosure TB 7/FUK-AE (optional)

TIRA GmbH Eisfelder Str. 23/25, 96528 Schalkau, Germany • Phone: +49 36766 280-0 • Fax: +49 36766 280-99 • Internet: www.tira-gmbh.de • Email: st@tira-gmbh.de

© TIRA GmbH • Version 14 - 2026-09-16

Subject to modifications