Vibration Test System TV 59370/AIT-480

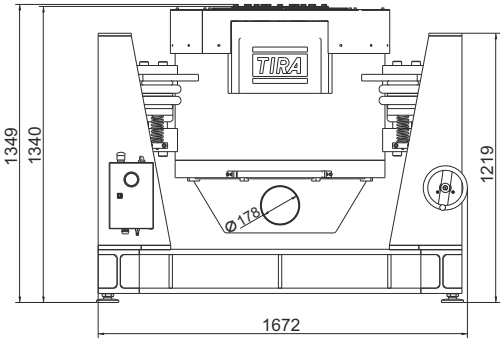
TECHNICAL PARAMETERS

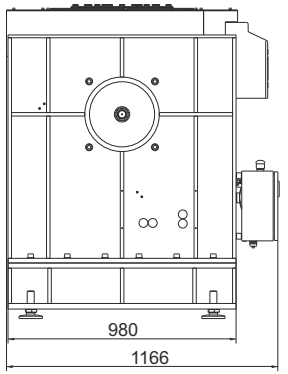
Rated peak force Sine$_{pk}$/Random$_{RMS}$[1]/Shock$_{pk}$[2]	70000/67000/210000 N
Frequency range	5 - 2500 Hz
Main resonance frequency	> 2100 Hz
Max. displacement Pk-Pk Sine/Random/Shock[3]	63.5/63.5/76.2 mm
Max. velocity Sine$_{pk}$/Random$_{RMS}$/Shock$_{pk}$	2.0/2.0/5.0 m/s
Max. acceleration Sine/Random/Shock	100/80/350 g
Suspension stiffness	250 N/mm
Effective moving mass	70 kg
Max. payload	910 kg
Magn. stray field[4]	1.5 mT
Armature diameter	480 mm
Min. required compressed air supply	600 kPa
Total mass	4800 kg
Interlocks	Temperature, displacement, cooling air, overcurrent, compressed air

1) Random force vector according to ISO 5344
2) Theoretical maximum shock value. Depends on payload, amplifier, shock and shock width
3) 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.



S 59370/AIT-480 (Example drawing)
Dimensions in mm





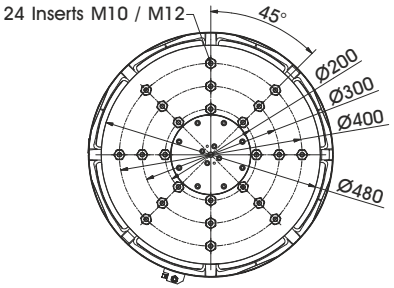
SCOPE OF DELIVERY, OPTIONS AND FEATURES OF THE SYSTEM

Scope of delivery:
- Vibration exciter
- Trunnion mount
  with integrated vibration isolation (AIT)
- Power amplifier
- Cooling blower
- Connection box for blower
- Connection cables (each 10 m)
- Power cable (10 m)
  for cooling blower (CEE 63 connector)
- Blower hose ø175 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
- Airglide-option (Shaker movable on air cushions)
- Squeak&Rattle (Silent operation without blower)
- 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:
- AIT-trunnion with integrated vibration isolation < 3 Hz
- 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



Armature 480 (Standard)

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

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Vibration Test System TV 59370/AIT-480

TECHNICAL PARAMETERS Amplifier A 6 26 11 147

Output power$_{RMS}$, max.	90000 VA
Frequency range	DC - 5 kHz
Voltage$_{RMS}$, max.	212 V
Current$_{RMS}$, max.	700 A
Signal input voltage$_{PK}$	±10 V
Total Harmonic Distortion (THD, at 70A$_{RMS}$, 200 Hz)	< 0.2 %
Signal to noise ratio	> 85 dB
Field voltage	250 V
Field current	103 A
Power supply (Standard)	3~ / N / PE 400 V±5% 50 Hz Direct connection (Terminal block)
Max. power consumption at 400 V	82 kVA
Recommended fuse protection (Standard)	125 A slow
Dimensions (WxHxD)	1800 x 2200 x 900 mm
Total mass	1150 kg
Interlocks:	Overload, Temperature, Displacement, Cooling air, Compressed air, Phase monitoring, Emergency stop

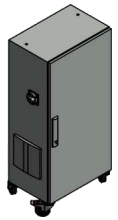
Features:
Field supply integrated
Mains switch and integrated line filter
Lo-Field/Hi-Field (Energy-saving mode)
Field voltage/Field current variable
according to customer spec.
4 Sigma peak current
Color Touch Screen

TECHNICAL PARAMETERS Cooling blower TB HR160

Max. volume flow rate	6600 m³/h
Max. total pressure increase	17 kPa
Rated motor output	25 kW
Rated frequency	88 Hz
Hose diameter	175 mm
Hose length (Std.)	5 m
Max. sound pressure level	105 dB(A)
Dimensions (WxHxD)	672 x 760 x 730 mm
Total mass	97.5 kg
Frequency converter (movable):	
Power supply (Standard)	3~ / PE 400 V±5% 50 Hz CEE 63
Max.current consumption at 400 V	42 A
Recommended fuse protection (Standard)	50 A slow
Dimensions (WxHxD)	672 x 1328 x 416 mm
Mass	150 kg

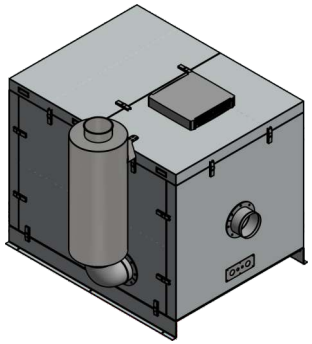
Options:
Silencer TB HR160-SI (Noise reduction 9 - 15 dB(A))
Dimensions (LxD): 1120 x 280 mm
Mass: 9.2 kg
Acoustic enclosure TB HR160-AE (Noise reduction 5 - 23 dB(A))
Dimensions (WxHxD): 1596 x 1535 x 1530 mm
Mass: 313 kg
Water-cooled acoustic enclosure WWT (Noise reduction 30 dB(A))
Dimensions (WxHxD): 1500 x 2080 x 1200 mm
Mass: 800 kg
Hose length according to customers request (up to 10 m)


Amplifier (illustration similar)


Frequency converter (for blower)


Cooling blower TB HR160


Silencer TB HR160-SI (optional)


Acoustic enclosure TB HR160-AE (optional)

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