Vibration Test System TV 56280/LS-180

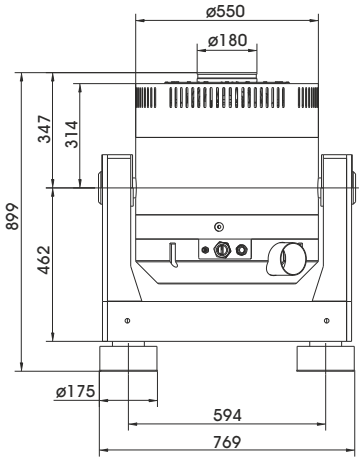
TECHNICAL PARAMETERS Vibration exciter S 56280/LS-180

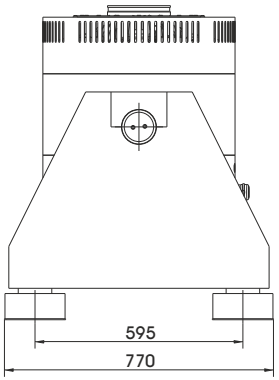
Rated peak force $Sine_{pk}$/$Random_{RMS}$[1]/$Shock_{pk}$[2]	8000/7200/24000 N
Frequency range	2 - 3000 Hz
Main resonance frequency	>2900 Hz
Max. displacement Peak-Peak	50.8 mm
Max. velocity $Sine_{pk}$/$Random_{RMS}$/$Shock_{pk}$	2.0/2.0/3.5 m/s
Max. acceleration Sine/Random/Shock	93/72/186 g
Suspension stiffness	50 N/mm
Effective moving mass (±5%)	8.1 kg
Max. payload	250 kg
Total mass	765 kg
Magn. stray field Std./low degaussing[3]	<1.5/<0.8 mT
Armature diameter	180 mm
Min. required compressed air supply	600 kPa
Interlocks	Field coil temperature, displacement, cooling air, overcurrent, compressed air

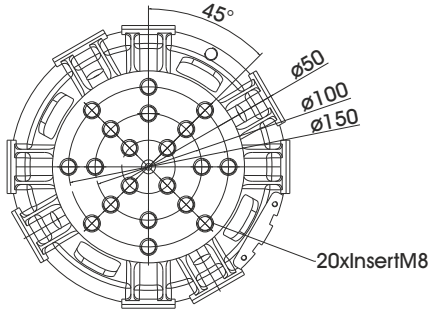
1) Random force according to ISO 5344:2004
2) Theoretical maximum shock value. Depends on payload, amplifier, shock and shock width
3) measured at 150 mm above armature
For long-term tests, the load must be reduced to 80 %. Continuous operation at maximum load can cause damage.



S 56280/LS-180 (Example drawing) Dimensions in mm







Armature 180 (Standard)

SCOPE OF DELIVERY, OPTIONS AND FEATURES OF THE SYSTEM

Scope of delivery:
Vibration exciter
Trunnion mount
Power amplifier
Cooling blower
Connection cable (5 m)
Power cable (5 m)
for amplifier (CEE 32 connector)
Blower hose ø140 mm (5 m)
Compressed-air hose NW 7,2
(Standard) (3 m)

Options:
Different thread inserts in the armature
at customer request
Low degaussing kit
to further reduce stray magnetic field
Squeak&Rattle (Silent operation without blower)
Wheels&Rails (incl. 3m rails)
Thermobarrier (-40°C to +140°C)
Chamber leadthrough
Climatic chamber support kit
Remote control (Software)
Silencer
for cooling blower (Noise reduction 3 - 6 dB(A))
Acoustic enclosure
for cooling blower (Noise reduction 5 - 23 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)
ASM-Mode (Auto Shutdown Manager)

Features:
Vibration isolation < 6 Hz
Coarse filter unit
Fully automatic pneumatic
load compensation
Automatic centering of 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

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Vibration Test System TV 56280/LS-180

TECHNICAL PARAMETERS Amplifier Chameleon

Max. output power$_{RMS}$ (factory-set)	15000 VA
Frequency range	DC - 5 kHz
Voltage$_{RMS}$, max.	212 V
Current$_{RMS}$, max. (factory-set)	40-100 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 (factory-set)	140-280 V
Field current (factory-set)	6-8 A
Total mass	330 kg
Dimensions (WxHxD)	600 x 1740 x 800 mm
Power supply (Standard)	3~ / N / PE 400 V±5% 50 Hz, CEE 32
Recommended fuse protection	32 A slow
Max. power consumption at 400 V (incl. blower)	17 kVA
Interlocks:	Overload, Temperature, Displacement, Cooling air, Compressed air, Phase monitoring, Emergency stop

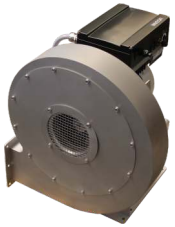
Features:
Field supply integrated
Field voltage/Field current variable
according to customer spec.
4 Sigma peak current
Mains switch and integrated line filter
Color Touch Screen

TECHNICAL PARAMETERS Cooling blower TB 9 FUK

Max. volume flow rate	1080 m³/h
Total pressure difference	9 kPa
Motor output	4 kW
Max. frequency	90 Hz
Hose diameter	140 mm
Hose length (Std.)	5 m
Total mass	60 kg
Dimensions (WxHxD)	505 x 598 x 464 mm
Max. sound pressure level	99 dB(A)
Power supply (standard)	by amplifier rack
Max. current consumption at 400 V	7.9 A

Options:
Silencer TB 9-SI (Noise reduction 3 - 6 dB(A))
Dimensions (LxD): 1012 x 150 mm
Mass: 1.2 kg
Acoustic enclosure TB 9-AE (Noise reduction 5 - 23 dB(A))
Dimensions (WxHxD): 1250 x 1393 x 1470 mm
Mass: 103 kg
Hose length according to customers request (up to 10 m)





Cooling blower TB 9 FUK



Silencer TB 9-SI
(optional)



Acoustic enclosure TB 9-AE
(optional)

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