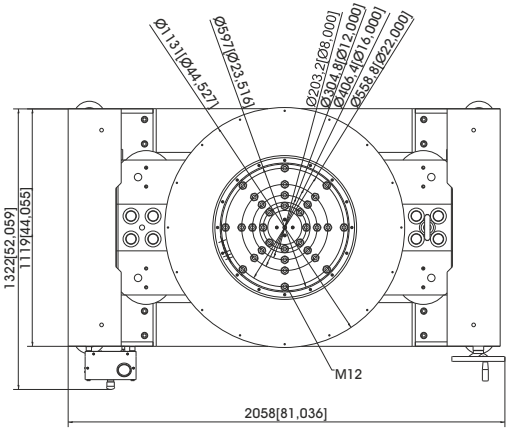
Vibration Test System TV 59413/AIT-590

S 59420/AIT-590 (Example drawing) mm[inch]

TECHNICAL PARAMETERS

Rated peak force $Sine_{pk}$/$Random^{1}_{RMS}$/$Shock_{pk}^{2}$	130000/130000/390000 N
Frequency range	5 - 2000 Hz
Main resonance frequency	1700 Hz
Max. displacement Sine/Random/Shock (Pk-Pk)[3]	63.5/63.5/76.2 mm
Max. velocity Sine/Random/Shock	2.0/2.0/3.5 m/s
Max. acceleration Sine/Random/Shock	100/75/300 g
Suspension stiffness	250 N/mm
Effective moving mass	125 kg
Max. payload	1300 kg
Magnetic stray field[4]	< 1.5 mT
Armature diameter	590 mm
Required compressed air supply	Min. 700 kPa
Total mass	8450 kg
Interlocks	Temperature, displacement, water flow rate, overcurrent, compressed air, conductance



1) Random force 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.

SCOPE OF DELIVERY, OPTIONS AND FEATURES OF THE SYSTEM

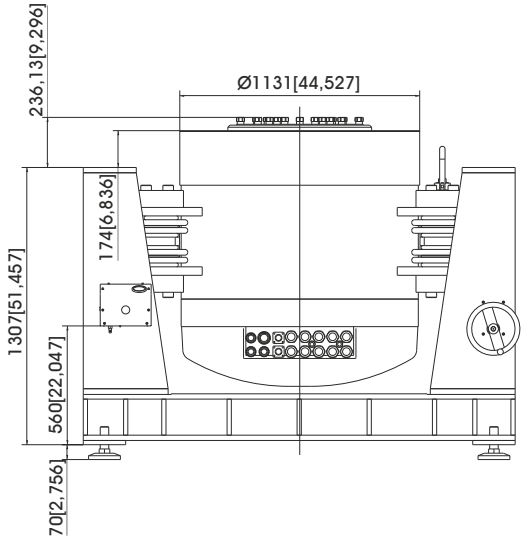
Scope of delivery:
- Vibration exciter S 59420
- Trunnion mount with integrated vibration isolation (AIT)
- Power amplifier
- Field power unit
- Cooling unit with integrated hydraulic unit
- Connection cables (each 10 m)
- Water hoses with self-sealing couplings (each 10 m)
- Hydraulic hoses with self-sealing couplings (each 10 m)
- Compressed-air hose NW 7.2 (Standard) (10 m)

Options:

TIRA EMS Energy Management System
- Energy-saving option with continuously variable field power

- Different hole pattern of armature (different pitch diameter and/or thread inserts) at customers request (M10/M12)
- Thermo barrier (-40°C to +140°C)
- Chamber leadthrough
- Climatic chamber support kit
- Remote display
- ASM-Mode (Auto-Shutdown-Manager)
- Cable/Hose extension
- Factory acceptance test
- Upgradable up to a peak force of 200 kN

Features:
- Vibration isolation < 3 Hz (AIT)
- Fully automatic pneumatic load compensation
- Low-friction hydrostatic bearing (Dual Bearing)
- AIT fixable
- Automatic centering of the AIT-System and the armature
- Degauss kit to reduce stray magnetic field
- Shaker-water circuit with overpressure
- Automatic permanent monitoring of conductance
- Integrated mains switch and line filter
- Energy-saving-mode (Field switchover)
- 4 Sigma peak current
- Made in Germany
- Servicehotline



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Subject to modifications

Vibration Test System TV 59413/AIT-590

TECHNICAL PARAMETERS Power Amplifier A 6 00 11 336 + Field power supply

Output power$_{RMS}$	165000 VA
Frequency range	DC - 5 kHz
Voltage$_{RMS}$, max.	±212 V
Current$_{RMS}$, max.	1600 A
Signal input voltage$_{RMS}$	10 V
Total Harmonic Distortion (at 70A$_{RMS}$, 200 Hz)	< 0.2 %
Signal to noise ratio	> 80 dB
Power supply - Amplifier (Standard)	3~ / N / PE 400 V±5% 50 Hz Direct connection (Terminal block)
Power supply - Field power supply (Standard)	3~ / N / PE 400 V±5% 50 Hz Direct connection (Terminal block)
Max. power consumption at 400 V	
Amplifier (incl. cooling unit)	220 kVA
Field power supply	98 kVA
Recommended fuse protection Amplifier (Standard)	450 A slow (for full extension)
Recommended fuse protection FPS (Standard)	200 A slow
Dimensions - Amplifier (WxHxD)	2400 x 2200 x 900 mm
Dimensions - Field power supply (WxHxD)	1200 x 1740 x 850 mm
Total mass - Amplifier	2450 kg
Total mass - Field power supply	1135 kg

Interlocks: Overload, Temperature, Displacement, Compressed air, Phase monitoring, Emergency stop, Water flow rate, Conductance

Features:
Multi-level field switching (energy saving mode)
Mains switch and integrated line filter
Field voltage/Field current variable
according to customer spec.
4 Sigma peak current
Color-Touchscreen

Amplifier (Illustration similar)

Field power supply

TECHNICAL PARAMETERS Cooling unit C 59430

Environmental conditions:	
Temperature	5 - 30 °C
Relative humidity	10 - 80 %
Energy transfer	max. 3 kW
Process water:	
Temperature	5 - 15 °C
Volume flow at max. supply temperature	15 m³/h
Working pressure: supply - static	≤ 8 bar (≤ 800 kPa)
Working pressure: dynamic differential pressure	≥ 3 bar (≥ 300 kPa)
Dissipated heat flow	max. 220 kW
Nominal width of supply pipes	R 1 1/2 IT (40 mm)
pH value	7 ± 1
Dimensions of dirt particles	< 25 µm
Water hardness (total/carbonate)	< 1.4 mmol/l / < 0.9 mmol/l
Dimensions (WxHxD)	800 x 2200 x 1100 mm
Total mass	~500 kg

Features:
Closed system --> No pollution and no water loss by evaporation
The system works with a higher pressure --> No cavitation interferences at the measuring signal
Manometers and flow meters at several places within the circuits
Integrated conductance monitoring and demineralisation
Reduction of water consumption at part load by controlling of the process water flow
Self-sealing couplings (free from leakage)
Optional: Hose length according to customer specs (up to 20 m)

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