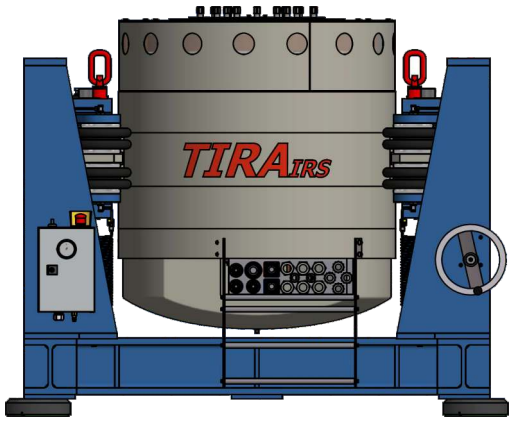
Vibration Test System TV 69410/AIT-480-IRS-420

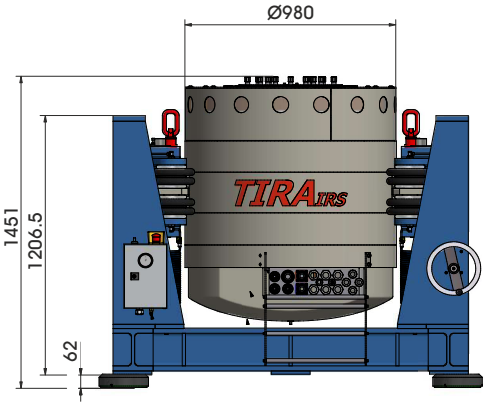
S 69410/AIT-480 (Example drawing) [mm]

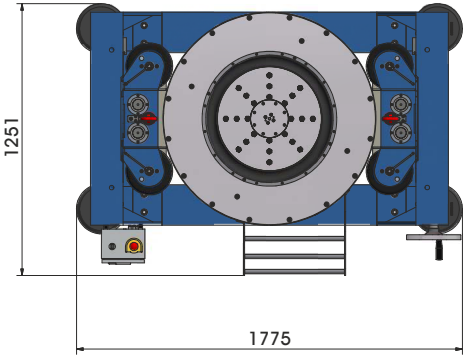
TECHNICAL PARAMETERS

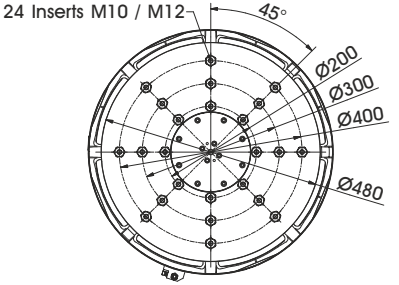
Rated peak force $Sine_{pk}$/$Random^{1}_{RMS}$/$Shock_{pk}^{2}$	125000/111000/420000 N
Frequency range	5 - 3000 Hz
Main resonance frequency	>2220 Hz
Max. displacement Sine/Random/Shock (Pk-Pk)[3]	63.5/63.5/76.2 mm
Max. velocity $Sine_{pk}$/$Random_{RMS}$/$Shock_{pk}$	2.0/2.0/5.5 m/s
Max. acceleration Sine/Random/Shock	200/165 g
Max. acceleration Shock (at payload)	3 ms: 200 g (150 kg) 6 ms: 160 g (150 kg)
Suspension stiffness	99 N/mm
Effective moving mass	63 kg
Max. payload	610 kg
Magnetic stray field[4]	< 1.5 mT
Armature diameter	480 mm
Required compressed air supply	Min. 600 kPa
Total mass	5300 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.









Armature 480 (Standard)

SCOPE OF DELIVERY, OPTIONS AND FEATURES OF THE SYSTEM

Scope of delivery:
- Vibration exciter
- 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:
- Different hole pattern of armature (different pitch diameter and/or thread inserts) at customers request
- Thermo barrier (-40°C to +140°C)
- Chamber leadthrough
- Climatic chamber support kit
- Remote control (Software)
- ASM-Mode (Auto-Shutdown-Manager)
- Cable/Hose extension
- Factory acceptance test
- ASG-K - Automatic Rotation System
- ERD-Tool - Extended Remote Diagnostic Tool
- AIT Resonance System

Features:
- First induct ring shaker with complete closed loop water cooling, no additional blower needed, no spray cooling, reduced air moisture in the system
- Vibration isolation < 3 Hz (AIT) (with option AITRS 2-3 Hz)
- 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
- 4 Sigma peak current
- Made in Germany
- Servicehotline

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Subject to modifications

TIRA Vibration Test Systems TV 69410/AIT-480-IRS-420

Vibration Test System TV 69410/AIT-480-IRS-420

TECHNICAL PARAMETERS Power Amplifier A 6 00 11 420 + Field power supply

Output power$_{RMS}$ [1]	220000 VA
Frequency range	DC - 5 kHz
Voltage$_{RMS}$, max.	212 V
Current$_{RMS}$, max.[1]	2000 A
Signal input voltage$_{PK}$	±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)	370 kVA
Field power supply	40 kVA
Recommended fuse protection Amplifier (Standard)	500 A slow
Recommended fuse protection FPS (Standard)	125 A slow
Dimensions - Amplifier (WxHxD)	3200 x 2200 x 900 mm
Dimensions - Field power supply (WxHxD)	600 x 1740 x 850 mm
Total mass - Amplifier	3100 kg
Total mass - Field power supply	500 kg

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

Features:
Mains switch and integrated line filter
Low/Mid/High-Field (Energy-saving mode)
Field voltage/Field current variable according to customer spec.
4 Sigma peak current
Color-Touchscreen

1) Values in connection with vibration exciter S 69410



Amplifier



Field power supply

TECHNICAL PARAMETERS Cooling unit C 59412

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	10 m³/h (for full extension)
Working pressure: supply - static	≤ 8 bar (≤ 800 kPa)
Working pressure: dynamic differential pressure	≥ 3 bar (≥ 300 kPa)
Dissipated heat flow	max. 110 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 900 mm
Total mass	~300 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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