

**TECHNICAL PARAMETERS**

|   |   |
|---|---|
| Rated peak force Sine <sub>pk</sub> /Random <sup>1</sup> <sub>RMS</sub> /Shock <sub>pk</sub> <sup>2</sup> | 31,500/29,225/94,420 lbf  |
| Frequency range   | 5 - 3,000 Hz  |
| Main resonance frequency  | 2,400 Hz  |
| Max. displacement Sine/Random/Shock (Pk-Pk) <sup>3</sup>  | 2.5/2.5/3.0 inch  |
| Max. velocity Sine <sub>pk</sub> /Random <sub>RMS</sub> /Shock <sub>pk</sub>                              | 79/79/157 inch/sec  |
| Max. acceleration Sine/Random   | 200/180 g   |
| Max. acceleration Shock (at payload)  | 3 ms: 300 g (209.4 lb)<br>6 ms: 100 g (529.1 lb)<br>11 ms: 100 g (771.6 lb) |
| Suspension stiffness  | 565 lbf/inch  |
| Effective moving mass   | 116.8 lb  |
| Max. payload  | 1,345 lb  |
| Magnetic stray field <sup>4</sup>   | < 1.5 mT  |
| Armature diameter   | 18.9 inch   |
| Required compressed air supply  | Min. 600 kPa  |
| Total mass  | 11,684 lb   |
| Interlocks: Temperature, displacement, water flow rate, overcurrent, compressed air, conduction           |   |

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 5.9 in. 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
  - with integrated vibration isolation (AIT)
- Power amplifier
- Field power unit
- Cooling unit with integrated hydraulic unit
- Connection cables (each 32.8 ft)
- Water hoses with
  - self-sealing couplings (each 32.8 ft)
- Hydraulic hoses with
  - self-sealing couplings (each 32.8 ft)
- Compressed-air hose NW 7.2 (Standard) (32.8 ft)

**Options:**

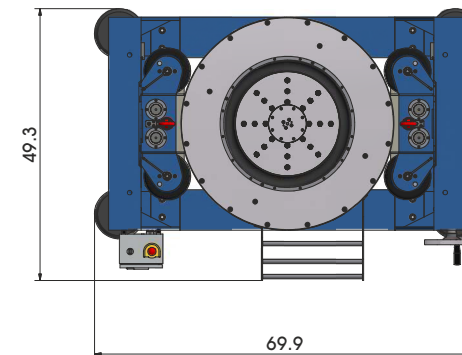
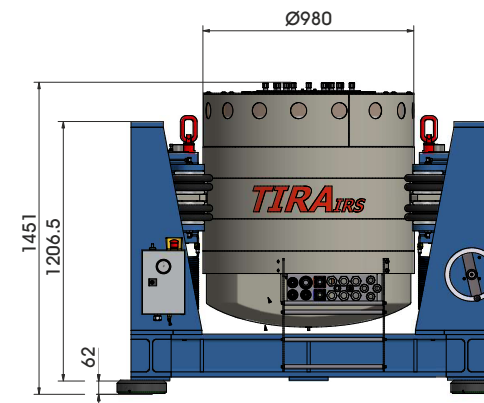
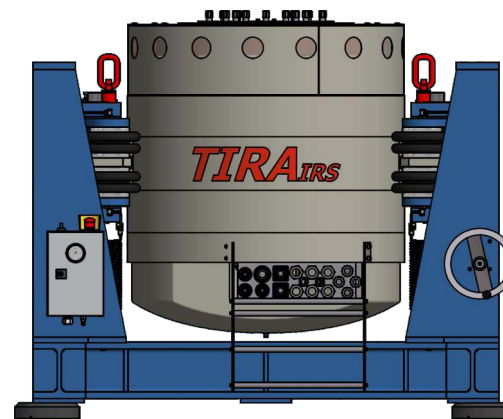
- Different hole pattern of armature (different pitch diameter and/or thread inserts) at customers request

**Options:**

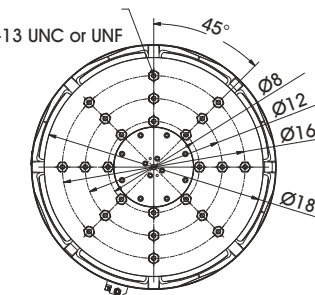
- TIRA EMS** Energy Management System
- Energy-saving option
  - with continuously variable field power
- Thermo barrier (-40°F to +284°F)
- Chamber leadthrough
- Climatic chamber support kit
- Remote control (Software)
- ASM-Mode (Auto-Shutdown-Manager)
- Cable/Hose extension
- Factory acceptance test
- ASG-K - Automatic Rotation System
- ERD-Tool - Extended Remote Diagnostic Tool
- AIT Resonance System
- Low Degauss Kit

**Features:**

- 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 conduction
- Integrated mains switch and line filter
- Energy-saving-mode
- 4 Sigma peak current
- Made in Germany
- Servicehotline



24 Inserts metric M10 or M12  
or  
imperial 3/8-16 or 1/2-13 UNC or UNF



Armature (Standard)

## TECHNICAL PARAMETERS Power Amplifier A 6 00 11 315 + Field power supply

|  |  |   |
|--|--|---|
| Output power <sub>RMS</sub>                                | 150000 VA  | Interlocks: Overload, Temperature, Displacement,<br>Compressed air, Phase monitoring, Emergency stop,<br>Water flow rate, Conductance   |
| Frequency range  | DC - 5 kHz   |   |
| Voltage <sub>RMS</sub> max.                                | 212 V  | Features:<br>Mains switch and integrated line filter<br>Multiple switchable field levels (for energy-saving)<br>Field voltage/Field current variable<br>according to customer spec. |
| Current <sub>RMS</sub> max.                                | 1500 A   |   |
| Signal input voltage <sub>pk</sub>                         | ±10 V  | 4 Sigma peak current<br>Color-Touchscreen   |
| Total Harmonic Distortion (at 70A <sub>RMS</sub> , 200 Hz) | < 0.2 %  |   |
| Signal to noise ratio                                      | > 80 dB  |   |
| Power supply - Amplifier (Standard)                        | 3~ / N / PE 480 V±5% 60 Hz   |   |
| Power supply - Field power supply (Standard)               | Direct connection (Terminal block)<br>3~ / N / PE 480 V±5% 60 Hz<br>Direct connection (Terminal block) |   |
| Max. power consumption at 480 V                            |  |   |
| Amplifier (incl. cooling unit)                             | 135 kVA  |   |
| Field power supply   | 40 kVA   |   |
| Recommended fuse protection Amplifier (Standard)           | 225 A slow   |   |
| Recommended fuse protection FPS (Standard)                 | 125 A slow   |   |
| Dimensions - Amplifier (WxHxD)                             | 94.5 x 86.6 x 35.4 in.   |   |
| Dimensions - Field power supply (WxHxD)                    | 23.6 x 68.5 x 33.5 in.   |   |
| Total mass - Amplifier                                     | 4189 lb  |   |
| Total mass - Field power supply                            | 1102 lb  |   |



Amplifier



Field power supply

## TECHNICAL PARAMETERS Cooling unit C 59412

|   |  |   |
|---|--|---|
| <b>Environmental conditions:</b>                |  | <b>Features:</b><br>Closed system --> No pollution and no water loss by evaporation<br>The system works with a higher pressure --> No cavitation interferences at the measuring signal<br>Manometers and flow meters at several places within the circuits<br>Integrated conductance monitoring and demineralisation<br>Fine filter with pollution monitoring<br>Reduction of water consumption at part load by controlling of the process water flow<br>Self-sealing couplings (free from leakage)<br>Optional: Hose length according to customer specs (up to 65 ft)<br>Optional: Monitoring of data, warnings and error messages at the PC |
| Temperature                                     | 41 - 86 °F   |   |
| Relative humidity                               | 10 - 80 %  |   |
| Energy transfer                                 | max. 3 kW  |   |
| <b>Process water:</b>                           |  |   |
| Temperature                                     | 41 - 59 °F   |   |
| Volume flow at max. supply temperature          | 5.9 cfm (for full extension)                           |   |
| Working pressure: supply - static               | ≤ 116 psi (≤ 800 kPa)                                  |   |
| Working pressure: dynamic differential pressure | ≥ 43.5 psi (≥ 300 kPa)                                 |   |
| Dissipated heat flow                            | max. 110 kW  |   |
| Nominal width of supply pipes                   | R 1 1/2 IT (1.57 in.)                                  |   |
| pH value  | 7 ± 1  |   |
| Dimensions of dirt particles                    | < 984 µin.   |   |
| Water hardness (total/carbonate)                | < 1.4 mmol/l / < 0.9 mmol/l<br>( < 140 ppm / < 90 ppm) |   |
| Dimensions (WxHxD)                              | 31.5 x 86.6 x 35.4 in.                                 |   |
| Total mass                                      | 662 lb   |   |

