

QRS™-210 VIBRATION SCREENING SYSTEM

Mobile Vibration Screening For Printed Circuit Boards And Small Subassemblies



Because of its compactness and mobility, the cost-effective QRS-210 Omni-Axial Quasi-Random Vibration System can add the benefits of Accelerated Stress Testing to manufacturing, product development or repair depots. The patented vibration table generates realistic vibration motion assuring efficient precipitation of material and workmanship flaws such as bad connection and bonds, PCB opens and shorts. Like other systems in the QRS series, the QRS-210 system uses pneumatic vibration to induce controlled repeatable omni-axial excitation within the most efficient frequency range. The small size and mobility of the QRS-210 allows quick and easy movement between your laboratory, production and service departments. For ease of operation, the QRS-210 system can be controlled via the RVP-100 Microprocessor based controller or the optional SSC-2000 PC-based controller.

THE QRS ADVANTAGE

- **Patented 6 Degree of Freedom Quasi-Random Segmented Vibration Table for Superior Performance**
- **Optimized for HALT, HASS, ESS and other Accelerated Testing Methods**
- **Proprietary Algorithms provide unexcelled accuracy and repeatability**
- **6 Control Accelerometers anywhere on table top for true closed-loop control**
- **5 Hz to 3000 Hz Continuous PSD**
- **Product Protection using Redundant Thermal and Vibration Safeties**

Specifications

Omni-Axial Quasi-Random Vibration Table

| | | | | | | | | | | | |
|---|---|-----------|--------|--------|---------------------|--------|---------------------|--------|---------------------|--------|---------------------|
| Excitation | Omni-axial quasi-random vibration excites all axes of motion simultaneously | | | | | | | | | | |
| Actuation | Six pneumatic, impulse-type vibrators | | | | | | | | | | |
| Vibration | Six degrees of Freedom, continuous broadband spectrum | | | | | | | | | | |
| Control | Digital flow valve | | | | | | | | | | |
| Typical Acceleration (Average of x, y, z) | <table border="0"> <tr> <td>Freq (Hz)</td> <td>26 x30</td> </tr> <tr> <td>5-1000</td> <td>19 g_{rms}</td> </tr> <tr> <td>5-2000</td> <td>36 g_{rms}</td> </tr> <tr> <td>5-3000</td> <td>50 g_{rms}</td> </tr> <tr> <td>5-5000</td> <td>59 g_{rms}</td> </tr> </table> | Freq (Hz) | 26 x30 | 5-1000 | 19 g _{rms} | 5-2000 | 36 g _{rms} | 5-3000 | 50 g _{rms} | 5-5000 | 59 g _{rms} |
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| 5-1000 | 19 g _{rms} | | | | | | | | | | |
| 5-2000 | 36 g _{rms} | | | | | | | | | | |
| 5-3000 | 50 g _{rms} | | | | | | | | | | |
| 5-5000 | 59 g _{rms} | | | | | | | | | | |
| Max Payload | 250 Lbs 114 Kg | | | | | | | | | | |
| Tabletop Dimensions | 26"D x 30"W 66cm x 76cm | | | | | | | | | | |
| Spectral Density | Average acceleration spectral density is +/-6 db in 1/3 Octave bands | | | | | | | | | | |

System

| | |
|---------------------|--|
| Safeties | Emergency power-off circuitry, interior light, Dead man timer, accelerometer failure detection |
| Interior Dimensions | 21.3"H x 31"W x 28.8"D 54.0 x 78.7 x 73.0 cm |
| Exterior Dimensions | 59"H x 57"W x 32"D 150.7 x 144.8 x 81.3 cm |
| Weight | 850 Lbs/386 Kg |
| Electrical | 120VAC, 1Φ, 60 Hz 240VAC, 1Φ, 50 Hz |
| Air Requirements | 70 SCFM at 90 psig |
| Port Holes | 1 round 4.375" ID |

Control

| | |
|----------------------------------|---|
| Vibration/Temperature Controller | RVP-100 Microprocessor Based Controller |
| Operating System | Windows 95/98/Millennium (SSC-2000 option only) |
| Safeties | Hierarchical key lock, self-test, vibration set point, channel & peak limit protection. |
| Accelerometers | 6 Control Accelerometers |

Included

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|--------------------------------|---------------------------------------|
| System Installation & Training | Operation & Maintenance Manuals |
| 6 Control Accelerometers | Removable panel for top loading |
| Protective table blanket | Support for 6 Response Accelerometers |

Options

| | |
|---|------------------------------------|
| SSC-2000 PC-based (Notebook or Desktop) | Vacuum hold-down |
| Product Response Accelerometer Kit | Metric Inserts |
| Spare Parts Kit | Table insert hole pattern |
| SBF-100 Fixture Kit | Porthole number, size and location |
| FSK-100 Fixture Starter Kit | Custom Product Monitoring |
| Custom Fixture Design and Fabrication | TCP/IP Interface |
| | RS-232 & GPIB Interfaces |

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