

ACTIVE VIBRATION ISOLATION SYSTEM INSTALLATION REPORT

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1. Measurement Details

- **Measurement Date**

March 17, 2017

- **Measurement Devices**

1. LAN-XI Data Acquisition Hardware

- Brüel & Kjær 3050-A-040 (Serial Number: 3050-111438)

2. Data Analysis Software

- Brüel & Kjær PULSE LAB SHOP 14

3. Sensors

- PCB Accelerometer

- Model: 393B05 (Serial Number: 48995, 40626)

- **Measurement Setup**

Bandwidth: 0 – 100 Hz

Lines: 400

Window: Hanning

Averaging: Fast Fourier Transform Spectrum Averaging

Amplitude Units: m/s²

Spectral Unit: RMS

- **Measurement Location**

1st Floor

- **Irregular Event**

An automotive factory is located right next to the installation site, causing large amplitudes of vibrations.

2. Equipment Information

- **Manufacturer**

ZEISS

- **Model**

SEM EVO 15

- **Floor Vibration Specification**

The manufacturer specifies that allowable vibration values are less than 6 μ m/s RMS up to 30 Hz and less than 12 μ m/s RMS above 30 Hz. Unless otherwise stated, requirements should be assumed to be in three orthogonal axes and in third octaves between 1Hz and 80Hz.

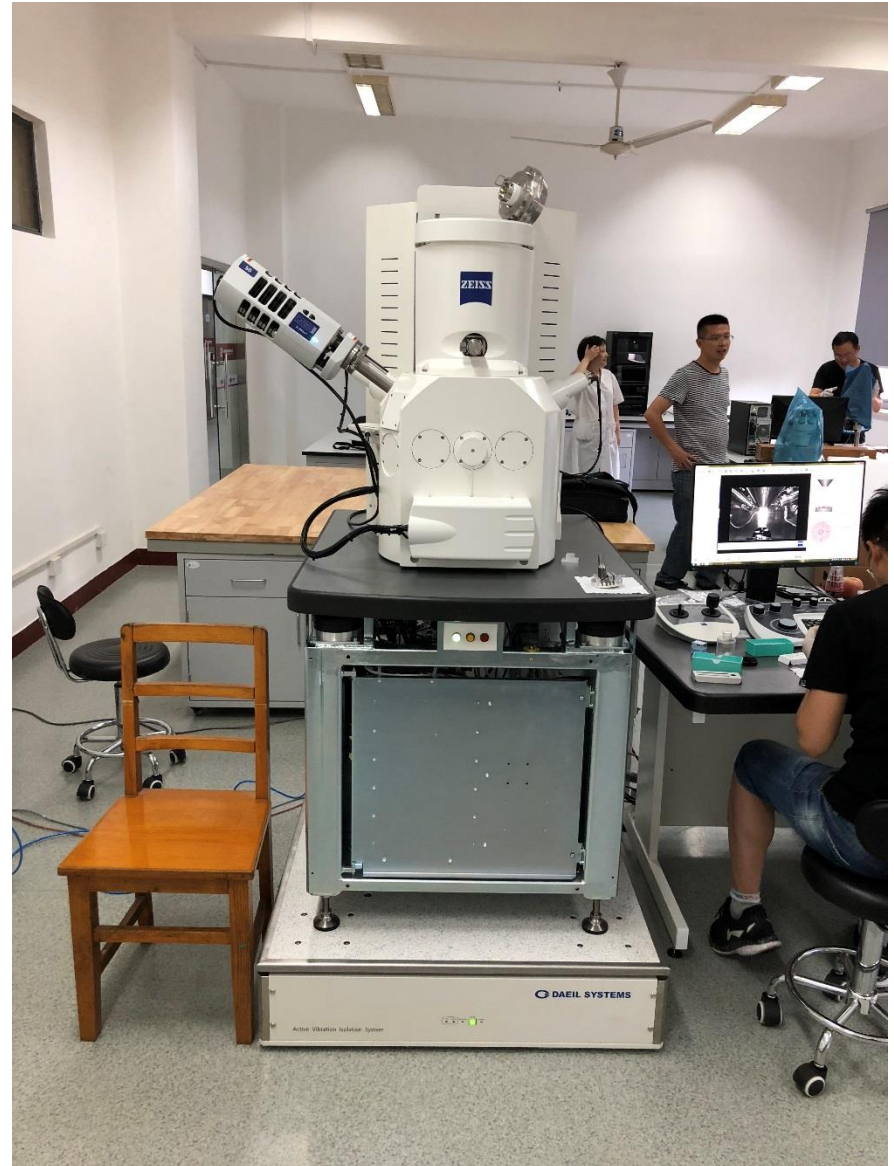
3. Vibration Isolation System Information

Model: DVIA-MB1000

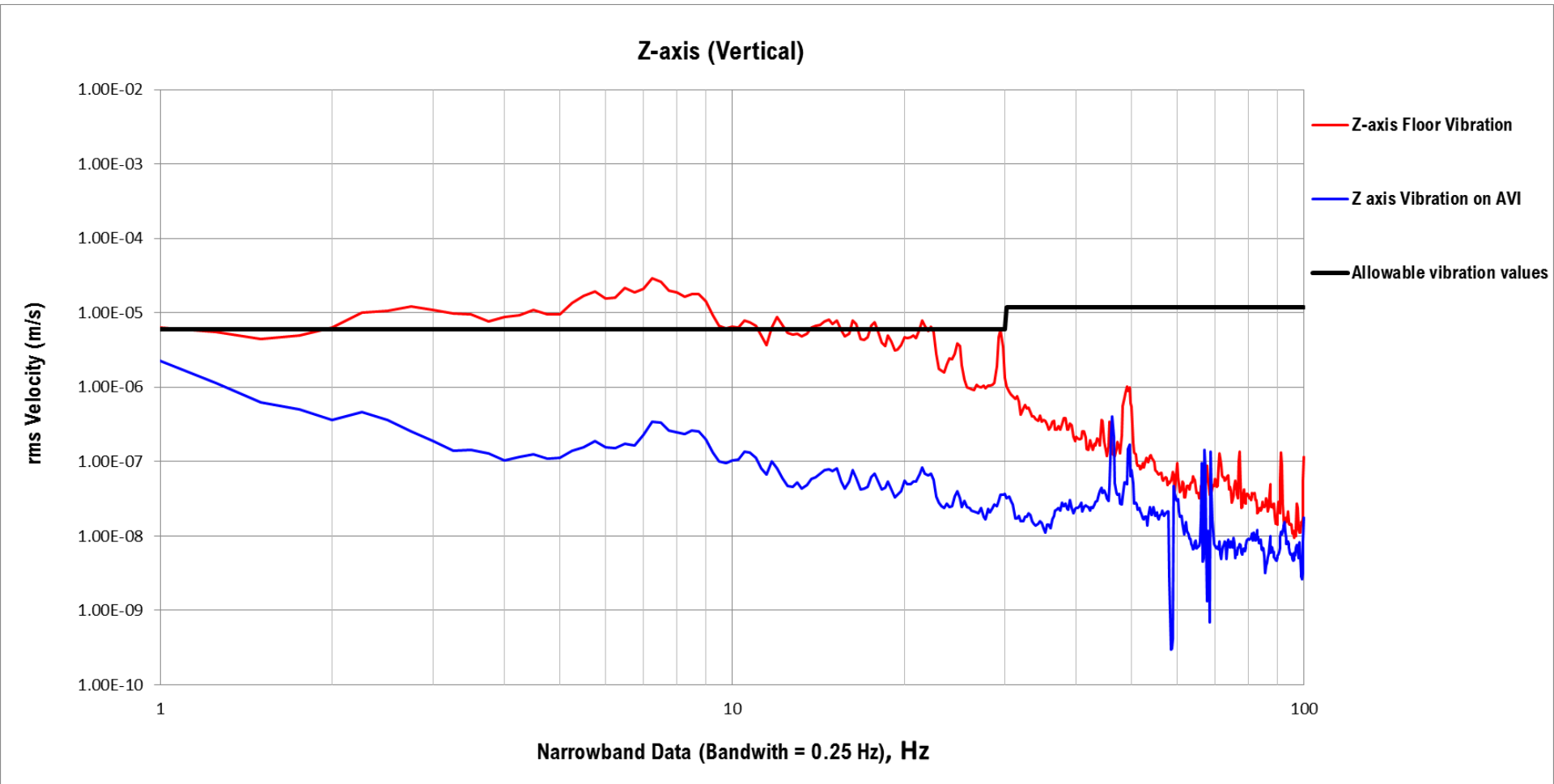


Platform Dimensions	1140 x 910 x 224 mm	
Load Capacity	500 - 1700 kg	
Actuator	Electromagnetic Actuator	
Maximum Actuator Force	Vertical: 40N, Horizontal: 20 N	
Degrees of Freedom	6 degrees	
Active Isolation Range	0.5 - 100 Hz	
Vibration Isolation at 2 Hz	≥90%	
Vibration Isolation at 10 Hz	≥99%	
Input Voltage (V)	AC100 - 240V / 50 - 60 Hz / 1A	
Power Consumption (W)	Maximum 110W, <50 W in normal operation	
Operating Range	Temperature (°C)	5 - 50 °C
	Humidity (%)	20 - 90%
Required Air Pressure	≥ 0.5 MPa (5 bar)	

4. Installation Photos

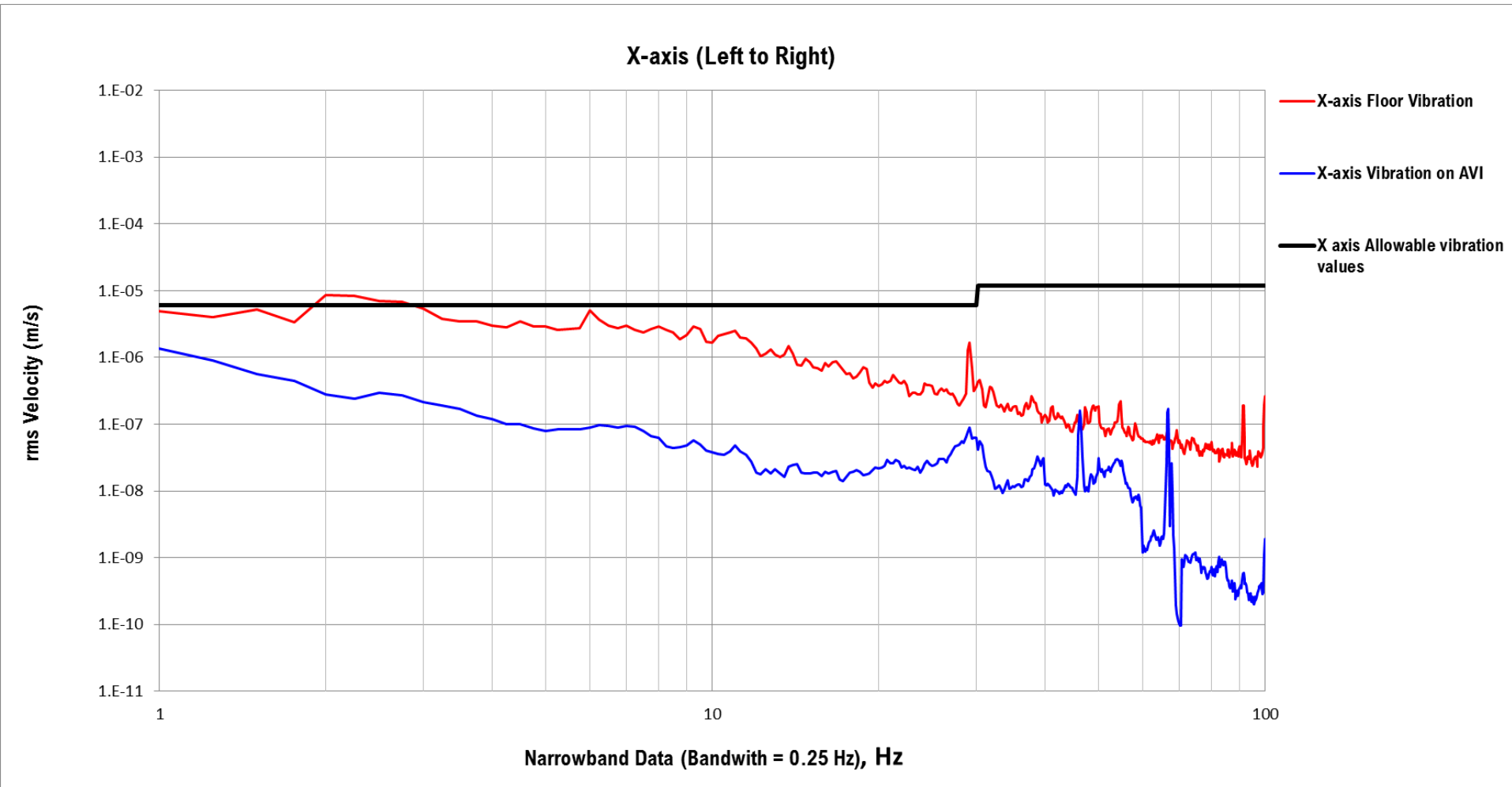


6. Results – Z axis (Vertical)



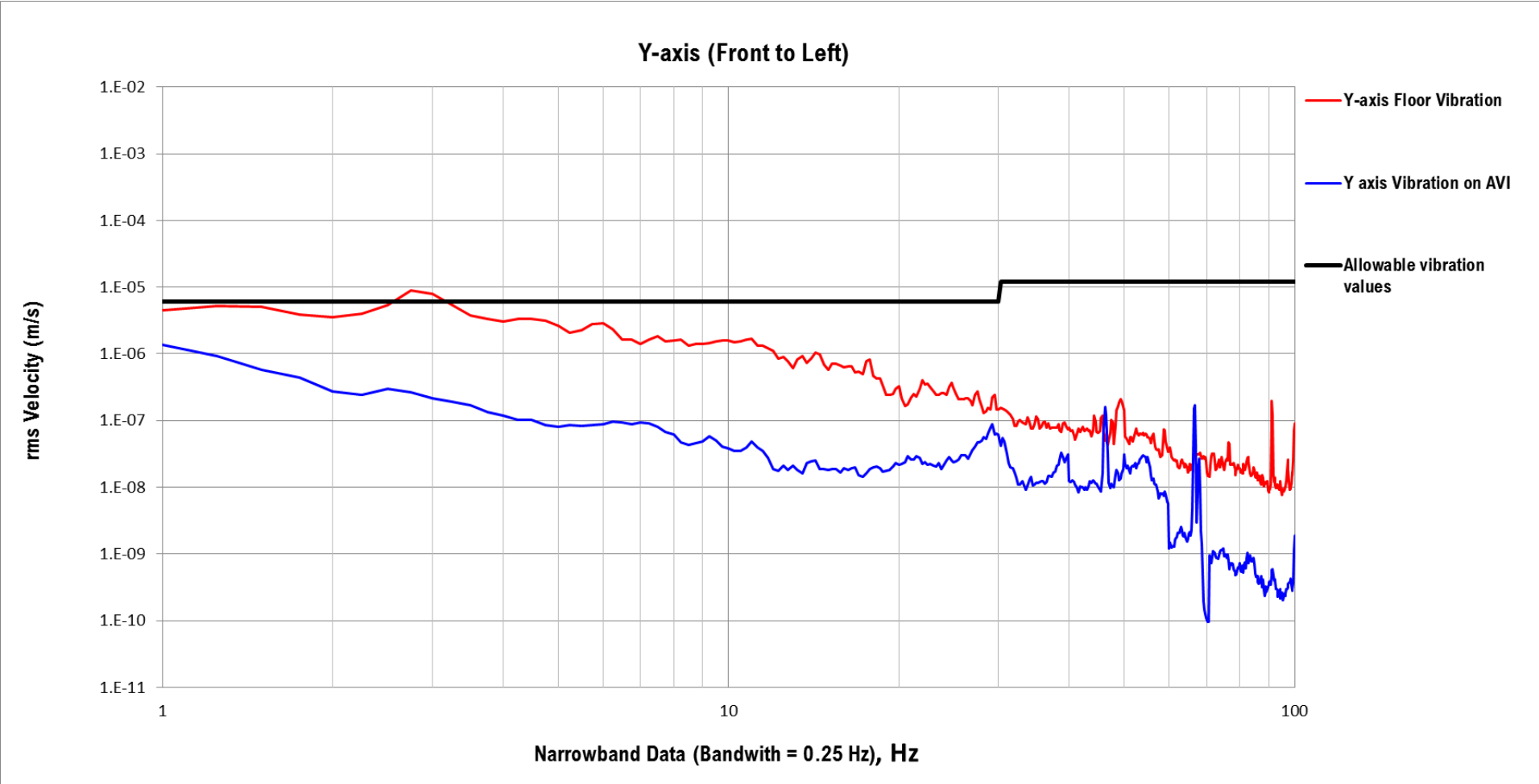
The measured vertical floor vibration exceeded the allowable floor vibration values from 1 to 22.8 Hz. The active vibration isolation system reduced the vertical floor vibration to below the allowable vibration values.

6. Results – X-axis (Left to Right)



The measured X-axis floor vibration exceeded the allowable floor vibration values from 2 to 3 Hz. The active vibration isolation system reduced the X-axis floor vibration to below the allowable vibration values.

6. Results – Y-axis (Front to Back)



The measured Y-axis floor vibration exceeded the allowable floor vibration values from 2.5 to 3.25 Hz. The active vibration isolation system reduced the Y-axis floor vibration to below the allowable vibration values.