Calibration Chart for Accelerometer Type 4382

Serial No. .....

Brüel & Kjær

Reference Sensitivity at 159,2 Hz (ω = 1000 s^{-1}), 100 ms^{-2} and ..... 25 °C

Charge Sensitivity* ..... 315 ..... pC/ms^{-2} or ..... 309 ..... pC/g

Voltage Sensitivity* (incl. AO 0038) ..... 243 ..... mV/ms^{-2} or ..... 238 ..... mV/g
(Voltage Preamp. input Capacitance: 3,5 pF)

Capacitance (incl. cable) ..... 1298 ..... pF

Typical Capacitance of cable AO 0038 ..... 110 pF

Maximum Transverse Sensitivity (at 30 Hz, 100 ms^{-2}) ..... 3,2 ..... %

Typical Undamped Natural Frequency ..... 51 kHz

Typical Transverse Resonance Frequency, using Exciter Table 4290, with accelerometer mounted on a Titanium cube by a 10 – 32 UNF-2A steel stud, mounting torque 1,8 Nm and greased surfaces:
..... 10 kHz

Polarity is positive on the center of the connector for an acceleration directed from the mounting surface into the body of the accelerometer

Resistance minimum 20.000 MΩ at room temperature

Date: .. .. Signature: . .....

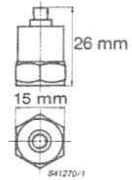
1 g = 9,807 ms^{-2} or 10 ms^{-2} = 1,02 g

* This calibration is traceable to the National Bureau of Standards Washington D.C.

BC 0162–13

Environmental:
Humidity: Welded, Sealed
Temperature Range: –74 to +250°C (–100 to +482°F)
Max. Shock Acceleration: 20 kms^{-2} peak
Typical Magnetic Sensitivity (50 Hz – 0,03 T): 1 ms^{-2}/T
Typical Acoustic Sensitivity: 0,002 ms^{-2} at 154 dB SPL (2 – 100 Hz)
Typical Base Strain Sensitivity (at 250 $\mu\epsilon$ in base plane): 0,01 $ms^{-2}/\mu\epsilon$
Typical Temperature Transient Sensitivity (3 Hz LLF): 0,1 ms^{-2}/°C
Specifications obtained in accordance with ANSI S2.11-1969

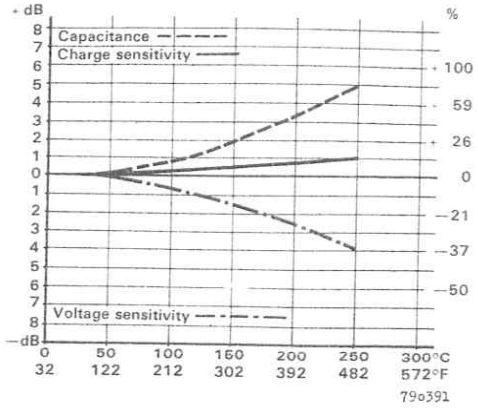
Physical:



Electrical Connector:
Coaxial 10 – 32 UNF-2A

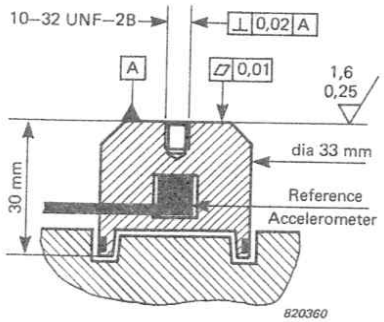
Material: Titanium, ASTM Grade 2
Sensing Element: Piezoelectric, type PZ 23
Weight: 17 gram
Construction: Delta Shear
Mounting Thread: 10 – 32 UNF-2B
Mounting Stud: 10 – 32 UNF-2A x13 mm, steel
Mounting Surface Flatness: <3 μm
Mounting Torque: Normal 1,8 Nm. Min. 0,5 Nm. Max. 3,5 Nm
Seismic Mass: 6,6 gram
Center of Gravity of Seismic Mass: 12,1 mm from mounting surface on central axis
Center of Gravity of Accelerometer: 9,7 mm from mounting surface on central axis
For further information see B & K "Piezoelectric Accelerometer and Preamplifier" handbook

Typical Temperature Sensitivity Deviation:
(Piezoelectric Material PZ23)



Mounting Technique:
Examine the mounting surface for cleanliness and smoothness.
If necessary, machine surface to tolerances shown in schematic drawing of Calibration Exciter 4290.
Fasten the 4382 using a 10 – 32 UNF-2A stud. Take care not to exceed the recommended mounting torque and that the stud does not bottom in the mounting holes.
A thin film of oil or grease between the accelerometer and the mounting surface helps achieve good contact and improves mounting stiffness.
For other types of mounting, see B&K "Piezoelectric Accelerometer and Preamplifier" handbook.

Schematic Drawing of Exciter 4290:
(Modified laboratory reference)



Material: Stainless steel

Mass of Exciter table: 180 gram

Mounted Resonance Frequency obtained on the Exiter 4290 using the recommended mounting technique is shown on the attached individual **Frequency Response Curve.**