

# Quartz

## Type 8076K

### Vibration Standard

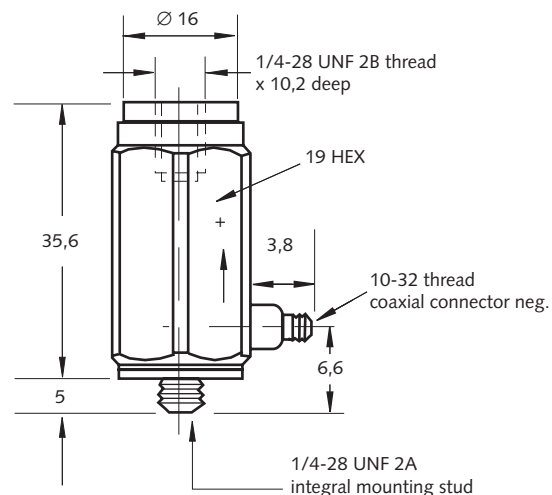
Type 8076K is a high precision laboratory accelerometer used primarily as a transfer standard for back-to-back calibrations.

- High impedance charge mode
- Quartz accuracy and stability
- Rugged design
- Low base strain sensitivity, and mass loading
- Ground isolated



#### Description

The Type 8076K accelerometer is Kistler's most accurate and repeatable laboratory vibration calibration transfer standard. It features low base strain and mass loading sensitivities, a rugged stainless steel housing, ground isolation and an integral mounting stud. A beryllium mounting base, lapped optically flat, provides optimum coupling between the 8076K and the test unit. Contained within the housing is a piezoelectric assembly consisting of a seismic mass, preloaded to a quartz element stack. The force acting on the quartz measuring element is proportional to the acceleration in accordance with Newton's Law:  $F=ma$ . This element in turn, gives an electrical charge signal proportional to the force and, therefore, to the acceleration. The charge signal is conducted through a low noise coaxial cable, such as the 1631 series, then converted and amplified to a proportional output voltage in a charge amplifier (such as Type 5010). Direct measurements can be made with a 5022 calibration charge amplifier.



#### Application

Type 8076K is a high precision laboratory accelerometer used primarily as a transfer standard for back-to-back calibrations.

#### CE Compliant Information

Because high impedance, charge mode accelerometers contain no electronics, CE certification to the EMC Directive is not appropriate. When a high impedance accelerometer is used with a CE certified signal conditioner (i.e., charge amplifier 5022), it is said that this system is CE compliant.

8076K\_000-210e-08.05

**Technical Data**

Type	Units	8076K
Acceleration Range	g	±1000
Acceleration Limit	g <sub>pk</sub>	±2000
Sensitivity*	pC/g	1,0 ± 0,10
Resonant Frequency mounted, nom.	kHz	33
Frequency Response ±4%	Hz	0,5 ... 5000
Amplitude Non-Linearity	%FSO	± 0,5
Insulation Resistance @ R.T	Ω	≥10 <sup>13</sup>
Capacitance	pF	100
Transverse Sensitivity*	%	≤2
Environmental:		
Base Strain Sensitivity @250μ in/in	g	0,0005
Electromagnetic Susceptibility	g/gauss	0,0005
Shock Limit (1ms pulse)	g <sub>pk</sub>	1000
Temperature Coefficient of Sensitivity	%/°C	0,02
Temperature Range Operating	°C	-20 ... 65
Temperature Range Storage	°C	-45 ... 90
Mounting Error:		
Test Transducer 12 ... 24	Nm	none
To exciter 18 ... 30	Nm	none
Construction:		
Sensing Element	type	quartz/ compression
Housing/Base	material	stainless steel
Sealing - Housing/Connector	type	epoxy
Connector	type	10-32 neg.
Ground Isolation min.	MΩ	10
Weight	grams	80

\* at 100 Hz, R.T. 10 grms

1 g = 9,80665 m/s<sup>2</sup>, 1 inch = 25,4 mm, 1 gram = 0,03527 oz, 1 lbf-in = 0,1129 Nm

**Mounting**

The calibration standard is attached to the vibration source by means of the integral mounting stud. Mounting studs and a stud adaptor afford extreme flexibility for back-to-back mounting between the calibration standard and test accelerometer configurations.

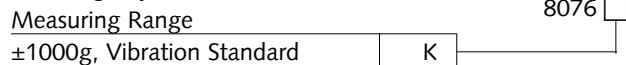
**Accessories Included**

- |  | <b>Type</b> |
|--|-------------|
| • (2) mounting studs, 1/4-28 to 10-32 thread                     | 8410        |
| • (2) mounting studs ,1/4-28 thread                              | 8412        |
| • (1) thread converter, 10-32 internal to 1/4-28 external thread | 8414        |
| • thread converter wrench  | 8552        |

**Optional Accessories**

- |                                      | <b>Type</b> |
|--------------------------------------|-------------|
| • mounting base with 1/4-28 internal | 8442        |

**Ordering Key**



8076K\_000-210e-08.05