



Endevco

北京汇润科贸有限公司

电话：+ 86 010 5601 8989

+ 86 010 5601 7979

传真：+ 86 010 5885 7266

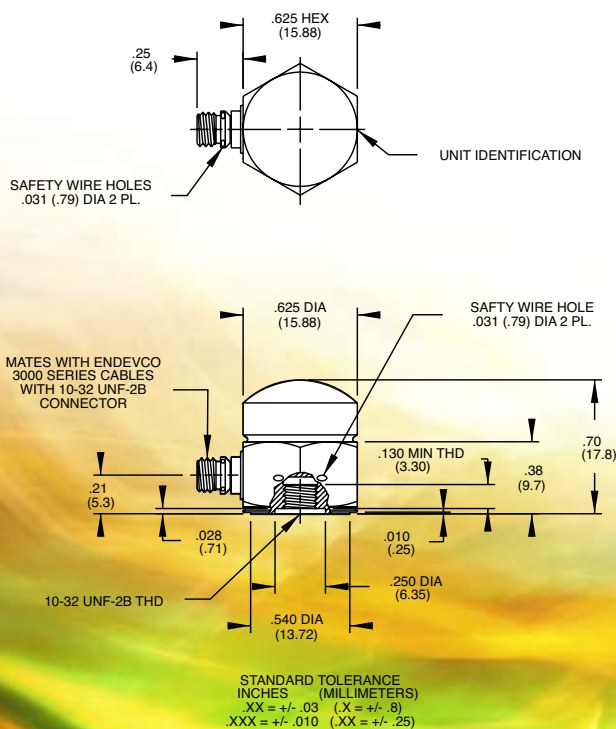
邮箱：sales@aq315.com

<http://www.aq315.com>

Model 2270M8 Transfer standard accelerometer

Features

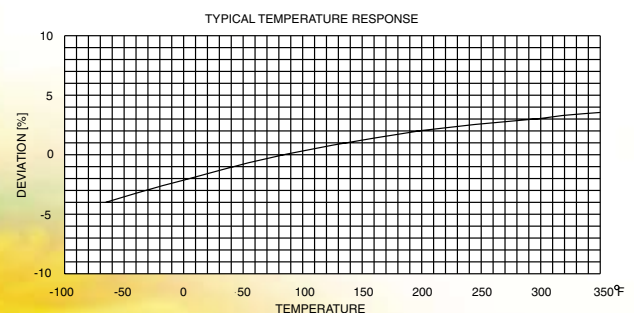
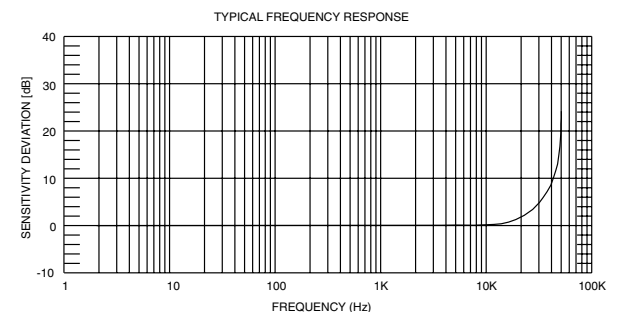
- Transfer standard accelerometer for calibration of back-to-back working standards and reference standards built into shakers
- Stable P-10 crystal material
- High [55 kHz] resonance frequency
- Electrical isolation
- Supplied with reciprocity calibration at 100 Hz



Description

The Endevco® Model 2270M8 transfer standard accelerometer is designed for the calibration of back-to-back working standards used in comparison calibrations. It is used extensively in calibrating standard accelerometers built into the armatures of vibration exciters, such as the Endevco Model 2901, or comparison standard accelerometers, such as the Endevco Model 2270. The Model 2270M8 is particularly valuable as a calibration source when the working standard is to be used at frequencies up to 20 000 Hz.

The Model 2270M8 is supplied with an absolute reciprocity calibration at 100 Hz. In addition, a comparison calibration from 20 Hz to 10 000 Hz, including a graph of sensitivity versus frequency, is supplied with all results given in a comprehensive report showing traceability to the NIST. Optional calibrations to extend the frequency response down to 2 Hz or up to 20 000 Hz are also available.



Model 2270M8

Transfer standard accelerometer

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SPECIFICATIONS

All specifications are typical at 75°F (24°C), referenced at 100 Hz and conform to ISA-RP 37.2 (1-64) unless otherwise indicated.

DYNAMIC CHARACTERISTICS

CHARGE SENSITIVITY	2.2 pC/g $\pm 25\%$ (0.22 pC/ms ²)						
CHARGE FREQUENCY RESPONSE [1]							
Frequency	2 Hz	100 Hz	1 kHz	2 kHz	5 kHz	10 kHz	20 kHz
Deviation	0%	REF	0%	0%	+2%	+5%	+20%
MOUNTED RESONANCE FREQUENCY	55 kHz typical, with a case resonance of ~3 dB at ~35 kHz						
TRANSVERSE SENSITIVITY	3% maximum in any direction with 1% available on special order						
AMPLITUDE LINEARITY	Sensitivity increases approximately 0.1% per 1000 g, 0 to 15 000 g						
TEMPERATURE RESPONSE	$\pm 4\%$ typical -65°F to 350°F (-54°C to 177°C) referenced to room temperature						

ELECTRICAL CHARACTERISTICS

CAPACITANCE	1600 pF $\pm 20\%$
RESISTANCE	20 G Ω minimum at 75°F (24°C), 100 M Ω minimum at 350°F (177°C)
ISOLATION	10 M Ω minimum between signal ground and housing
POLARITY	Positive output for acceleration into the base

ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE	-65°F to 350°F (-54°C to 177°C)
HUMIDITY	Hermetically sealed by welding and by glass/metal seal in receptacle
ACCELERATION LIMIT	15 000 g peak shock 1000 g peak sinusoidal in any direction
BASE STRAIN SENSITIVITY	1.1 equivalent g peak per 250 μ strain peak
ELECTROMAGNETIC SENSITIVITY	0.06 equivalent g rms at 100 gauss rms, 60 Hz

PHYSICAL CHARACTERISTICS

See Outline Drawing	
WEIGHT	0.6 oz (16.5 gm) typical
CASE MATERIAL	Stainless Steel
SENSOR	ENDEVCO PIEZITE type P-10 in the single-ended compression mode
OUTPUT RECEPTACLE	10-32 UNF threaded coax socket type side connector mates with ENDEVCO Model 3090C cable assembly
MOUNTING	Detachable 10-32 stud 18 lbf-in (2 Nm) mounting torque

CALIBRATION DATA

See ENDEVCO Calibration Service Bulletin

STANDARD

CS120 Reciprocity Calibration includes an absolute reciprocity sensitivity at 100 Hz and 2 g peak, and a comparison frequency response from 20 to 10 000 Hz. Test results are furnished in a formal report that includes transverse sensitivity, resistance, capacitance, and frequency response plots.

OPTIONAL

CS120L Extends the frequency response calibration down to 2 Hz.
CS120H Extends the frequency response calibration up to 20 000 kHz
CS310 Temperature Response Calibration, -65°F to 350°F (-54°C to 177°C).
CS110 Shock Calibration
CS210 Sinusoidal Linearity Calibration

INCLUDED ACCESSORIES

3090C-120 CABLE ASSEMBLY
2981-3 MOUNTING STUD, 10-32 UNF
15071 ADAPTER STUD, 1/4-28 UNF to 10-32 UNF

OPTIONAL ACCESSORIES

2981-4 MOUNTING STUD, M5x0.8

NOTE:

1. Low frequency response will be determined by the roll-off characteristics of the charge amplifier used with the 2270M8 standard accelerometer.
2. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.

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