


	<p>HERO™ vibration controller incl. signal conditioners</p>	<div>  <b>Typical DUT*</b> </div> <ul style="list-style-type: none"> <li>✓ vibration sensors <ul style="list-style-type: none"> <li>• PE transducers</li> <li>• IEPE transducers</li> <li>• VC transducers</li> <li>• PR transducers</li> <li>• Digital transducers (SPI, I2C, DTI, and other interfaces)</li> </ul> </li> <li>✓ vibration meters</li> <li>✓ vibration calibrators</li> <li>✓ supports TEDS/ID modules according to IEEE 1451.4</li> </ul> <p><small>* DUT = Device Under Test</small></p>
	<p>CS Q-LEAP™ software</p> <ul style="list-style-type: none"> <li>• sine calibration</li> <li>• sine sweep</li> <li>• vibration measurement</li> <li>• vibration generation</li> <li>• more on demand</li> </ul>	
	<p>SE-29 high frequency vibration exciter with internal reference accelerometer and power amplifier</p>	



## Standards

- ✓ ISO 16063-21: Calibration of vibration transducers by comparison to a reference transducer
- ✓ ISO 16063-44: Calibration of field vibration calibrators
- ✓ ISO 17025: General requirements for the competence of testing and calibration laboratories



## Key features



Vibration calibration system for the frequency range 3 Hz ... 20 kHz



Traceable to PTB (German National Metrology Laboratory)



Calibration of vibration sensors, measurement systems and calibrators



Integrated sensor database



Integrated software for the generation of calibration certificates (print, PDF,...)  
Easy data exchange with applications like ERP systems or measuring equipment databases



<b>Force rating, max. (sine peak) <sup>1)</sup></b>	95 N (21 lbf)
<b>Frequency range</b>	3 Hz ... 20 kHz - calibration mode (traceable) 20 kHz ... 50 kHz - extended range for testing purposes
<b>Acceleration, max. <sup>1)</sup></b>	450 m/s <sup>2</sup> (46 g <sub>n</sub> )
<b>Displacement, max. (peak-peak) <sup>2)</sup></b>	10 mm (0.39 in)
<b>DUT weight, max.</b>	2 kg (4.4 lbs) vertical 1 kg (2.2 lbs) horizontal

1) Interval mode of operation

2) Recommended operation range; mechanical stops at 12 mm (0.47 in)

<b>Frequency range</b>		<b>Maximum recommended payload for best performance<sup>3)</sup></b>	<b>Expanded measurement uncertainty<sup>4)</sup> magnitude<sup>5)</sup> / phase<sup>6)</sup> of transfer coefficient</b>
<b>from</b>	<b>to</b>		
5 Hz	< 10 Hz	200 g (0.4 lbs)	1.0 % / 1.0°
10 Hz	< 20 Hz		0.7 % / 0.7°
20 Hz	1 000 Hz		0.5 % / 0.7°
> 1 000 Hz	5 000 Hz	50 g (0.1 lbs)	0.7 % / 0.7°
> 5 000 Hz	10 000 Hz		1.5 % / 1.0°
> 10 000 Hz	15 000 Hz		2.0 % / 2.0°
> 15 000 Hz	20 000 Hz		3.0 % / 3.0°
Reference frequencies: 80 Hz, 100 Hz, 160 Hz		200 g (0.4 lbs)	0.5 % / 0.7°

<b>Recommended excitation amplitudes (peak values)</b>	
<b>Minimum</b>	1.0 m/s <sup>2</sup>
<b>Maximum (high payload)<sup>7)</sup></b> (displacement, velocity, acceleration)	<b>5 mm</b> in the range <b>3 Hz ... 12.5 Hz</b> <b>0.4 m/s</b> in the range <b>12.5 Hz ... 48 Hz</b> <b>120 m/s<sup>2</sup></b> in the range <b>48 Hz ... 1 kHz</b> <b>190 m/s<sup>2</sup></b> in the range <b>1 kHz ... 5 kHz</b> <b>350 m/s<sup>2</sup></b> in the range <b>5 kHz ... 10 kHz</b>
<b>Maximum (low payload)<sup>8)</sup></b> (displacement, velocity, acceleration)	<b>5 mm</b> in the range <b>3 Hz ... 12.5 Hz</b> <b>0.4 m/s</b> in the range <b>12.5 Hz ... 200 Hz</b> <b>450 m/s<sup>2</sup></b> in the range <b>200 Hz ... 10 kHz</b>

3) Maximum recommended payload to comply the specified measurement uncertainty for the system. Higher payloads are possible (according to the data sheet of vibration exciter), in this case individual estimations of the uncertainty must be performed.

4) Determined according to GUM (ISO Guide to the expression of uncertainty in measurement, 1995) with k = 2 (coverage factor) for the best possible DUT (other devices that are not as ideal have to be evaluated with individual additions)

5) Uncertainties only valid for electrical sensor signals ≥ (1 mV or 1 pC)

6) Only in combination with optional extra PHASE

7) Maximum acceleration for maximum recommended payload of DUT

8) Maximum acceleration without any payload

