









	<p>HERO™ vibration controller incl. signal conditioners</p>	<div>  Typical DUT* </div> <ul style="list-style-type: none"> ✓ vibration sensors <ul style="list-style-type: none"> • PE transducers • IEPE transducers • VC transducers • PR transducers • Digital transducers (SPI, I2C, DTI, and other interfaces) ✓ vibration meters ✓ vibration calibrators ✓ supports TEDS/ID modules according to IEEE 1451.4 <p><small>* DUT = Device Under Test</small></p>
	<p>CS Q-LEAP™ software</p> <ul style="list-style-type: none"> • sine calibration • sine sweep • vibration measurement • vibration generation • more on demand 	
	<p>SE-20 high frequency vibration exciter with internal reference accelerometer and power amplifier</p>	

	Standards
	<ul style="list-style-type: none"> ✓ 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
	<p>Vibration calibration system for the frequency range 3 Hz...10 kHz</p>
	<p>Traceable to PTB (German National Metrology Laboratory)</p>
	<p>Calibration of vibration sensors, measurement systems and calibrators</p>
	<p>Integrated sensor database</p>
	<p>Integrated software for the generation of calibration certificates (print, PDF,...) Easy data exchange with applications like ERP systems or measuring equipment databases</p>



Force rating, max. (sine peak) ¹⁾	95 N (21 lbf)
Frequency range	3 Hz ... 10 kHz - calibration mode (traceable) 10 kHz ... 20 kHz - extended range for testing purposes
Acceleration, max. ¹⁾	600 m/s ² (61 g _n)
Displacement, max. (peak-peak) ²⁾	10 mm (0.39 in)
DUT weight, max.	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)

Frequency range		Maximum recommended payload for best performance ³⁾	Expanded measurement uncertainty ⁴⁾ magnitude ⁵⁾ / phase ⁶⁾ of transfer coefficient
from	to		
3 Hz	< 5 Hz	500 g (1.1 lbs)	2.0 % / 2.0°
5 Hz	< 10 Hz		1.5 % / 1.5°
10 Hz	< 20 Hz		1.0 % / 0.7°
20 Hz	1 000 Hz		0.7 % / 0.7°
> 1 000 Hz	5 000 Hz	250 g (0.6 lbs)	1.5 % / 1.5°
> 5 000 Hz	10 000 Hz	50 g (0.1 lbs)	2.5 % / 2.0°
Reference frequencies: 80 Hz, 100 Hz, 160 Hz		500 g (1.1 lbs)	0.5 % / 0.7°

Recommended excitation amplitudes (peak values)	
Minimum	1.0 m/s ²
Maximum (high payload)⁷⁾ (displacement, velocity, acceleration)	5 mm in the range 3 Hz ... 20.2 Hz 80 m/s² in the range 20.2 Hz ... 1 kHz 120 m/s² in the range 1 kHz ... 5 kHz 250 m/s² in the range 5 kHz ... 10 kHz
Maximum (without payload)⁸⁾ (displacement, velocity, acceleration)	5 mm in the range 3 Hz ... 39 Hz 300 m/s² in the range 39 Hz ... 10 kHz

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 (JCGM 100 „Evaluation of measurement data - Guide to the expression of uncertainty in measurement“) with k = 2 (coverage factor) for the best possible device under test (DUT). Other devices that are not assumed as ideal must be evaluated with individual contributions.)

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

