







	<p>HERO™ vibration controller incl. signal conditioners</p>	<h2>~ Typical DUT</h2> <ul style="list-style-type: none"> <li>• heavy seismic sensors (seismometers)</li> <li>• geophones for structure/building vibration measurement</li> <li>• accelerometers and vibration velocity sensors for the very low frequency range</li> </ul>
	<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>APS 600 vibration exciter incl. power amplifier and zero position controller for horizontal excitation</p>	
	<p>all-digital laser vibrometer incl. vibration isolation and positioning device for the laser head</p>	
		<h2>✓ Standards</h2>
		<ul style="list-style-type: none"> <li>• ISO 16063-11: primary vibration calibration by laser interferometry</li> <li>• ISO 16063 - 21: calibration of vibration transducers by comparison to a reference transducer</li> <li>• ISO 17025: general requirements for the competence of testing and calibration laboratories</li> <li>• DIN 45669: sensors for measurement of vibration immission</li> </ul>

## ★ Key features

	<p>frequency range DC...100 Hz</p>
	<p>traceable to PTB (German National Metrology Laboratory)</p>
	<p>calibration of vibration sensors, seismic sensors and geophones</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>



Frequency range	DC... 100 Hz
Stroke <sup>1)</sup> , max.	400 mm (15.75 in)
Force <sup>1) 2)</sup>	215 N (48 lbf)
Acceleration <sup>2) 3)</sup> , max.	23 m/s <sup>2</sup> (2.3 g <sub>n</sub> ) peak
Operation	horizontal
Moving element weight	9.3 kg (20.5 lbs)
Payload, max.	25 kg (55 lbs)
Table size	254 mm × 254 mm (10 in × 10 in)

1) Peak sine

2) **Intervall** mode of operation

3) Recommended operation range peak-peak; mechanical stops at 450 mm (17.7 in)

Frequency range		Max. recommended payload	Expanded measurement uncertainty <sup>1)</sup> amount <sup>2)</sup> / phase <sup>3)</sup>
from	to		
0.1 Hz	0.4 Hz	25 kg (55 lbs)	1.5 % / 1.5°
> 0.4 Hz	16 Hz		0.7 % / 1.0°
> 16 Hz	40 Hz		1.5 % / 1.5°
> 40 Hz	100 Hz	15 kg (33 lbs)	2.5 % / 2.0°
Reference frequencies: 1 Hz / 4 Hz / 8 Hz / 16 Hz		25 kg (55 lbs)	0.7 % / 0.7°

### Recommended excitation amplitudes (peak values)

<b>Minimum</b>	0.1 Hz... 100 Hz: <b>1.0 mm/s</b> 1 Hz ref. freq.: <b>0.2 mm/s</b>
<b>Maximum (high payload) <sup>4)</sup></b> (displacement, velocity, acceleration)	<b>200 mm</b> in the range of <b>0.10 Hz...0.315 Hz</b> <b>0.4 m/s</b> in the range of <b>0.315 Hz...0.8 Hz</b> <b>2.0 m/s<sup>2</sup></b> in the range of <b>0.8 Hz...10 Hz</b> <b>2.0 m/s<sup>2</sup></b> in the range of <b>10 Hz...40 Hz</b> <b>0.5 m/s<sup>2</sup></b> in the range of <b>40 Hz...100 Hz</b>
<b>Maximum (low payload) <sup>5)</sup></b> (displacement, velocity, acceleration)	<b>200 mm</b> in the range of <b>0.1 Hz...0.315 Hz</b> <b>0.4 m/s</b> in the range of <b>0.315 Hz...4.0 Hz</b> <b>10 m/s<sup>2</sup></b> in the range of <b>4.0 Hz...10 Hz</b> <b>10 m/s<sup>2</sup> ... 2.0 m/s<sup>2</sup></b> in the range of <b>10 Hz...40 Hz</b> <b>1.0 m/s<sup>2</sup></b> in the range of <b>40 Hz...100 Hz</b>

1) Only in combination with optional extra PHASE

2) Determined according to GUM (ISO Guide to the expression of uncertainty in measurement) with k = 2 (coverage factor). The measurement uncertainty is specified for the best possible device under test (DUT): „Nanometrics Trillium Compact“ (plus its mounting adapter) in two configurations: first the DUT and secondly the DUT with additional dummy mass. Best uncertainty values only valid for symmetric centered mounting of the DUT and the mass with a center of gravity <80 mm at 25 kg above exciter table. Any other type of DUT can be calibrated. But they must meet the maximum payload limits given by the data sheet of the vibration exciter. Measurement uncertainties need to be determined individually, especially for frequencies above 20 Hz.

3) Valid for electrical sensor signals ≥ (1 mV or 1 pC)

4) Maximum vibration amplitude for maximum payload (DUT)

5) Maximum vibration amplitude without any payload (DUT)

