

TECHNICAL DATA

# Fluke 802EN

## Vibration Meter



### One-Button Vibration Assessment for Mechanical Equipment

- Three measurement modes meet the complex test environments of industrial sites
- High repeatability ensures consistent measurement accuracy
- One-button measurement to measure assessment value immediately
- One metre drop tested, rugged and durable
- Data capacity of 99 sets, reviewable in real-time
- Convenient built-in flashlight for working in dark spaces
- Audio output for the detection of abnormal machine sounds

### One Button Vibration Assessment

**The Fluke 802EN has three test modes to meet your requirements in various difficult-to-measure environments. In addition, this tool is equipped with an audio connector allowing you to connect your headphones directly for detecting unusual machine sounds.**

The Fluke 802EN Vibration Meter reaches the highest standard of repeatability and accuracy. It quickly checks a wide range of mechanical equipment in factories by measuring displacement, velocity, and acceleration. Moreover, the 802EN is easy to use, efficient and fast making it an excellent for diagnostic tool for use in Food and Beverage Processing, manufacturing and production, power plants and petrochemical industries.



Extension Rod Mode

External Sensor Mode

Basic Test Mode

You can use the ISO Standard 10816-1 to evaluate the severity of overall vibration levels. You can compare the overall vibration value measured with the Product to this table to identify the vibration severity.

### Vibration Severity - ISO 10816-1

Machine	mm/s	Class I Small machines	Class II Medium machines	Class III Large rigid foundation	Class IV Large soft foundation
Vibration velocity v <sub>rms</sub>	0.28	Good	Good	Good	Good
	0.45	Good	Good	Good	Good
	0.71	Good	Good	Good	Good
	1.12	Satisfactory	Good	Good	Good
	1.80	Satisfactory	Satisfactory	Good	Good
	2.80	Unsatisfactory	Satisfactory	Satisfactory	Good
	4.50	Unsatisfactory	Unsatisfactory	Satisfactory	Satisfactory
	7.10	Unacceptable	Unsatisfactory	Unsatisfactory	Satisfactory
	11.20	Unacceptable	Unacceptable	Unsatisfactory	Unsatisfactory
	18.00	Unacceptable	Unacceptable	Unacceptable	Unsatisfactory
	28.00	Unacceptable	Unacceptable	Unacceptable	Unacceptable
45.9	Unacceptable	Unacceptable	Unacceptable	Unacceptable	

ISO 10816-1 This standard contains general guidelines for machine vibration measurements on non-rotating parts

Built-in acceleration sensor parameters:		
Sensitivity (typical)		10.00 mV / m/s <sup>2</sup> ±5 % (1 g = 9.8 m/s <sup>2</sup> )
Measurement parameters:		
Acceleration	Range	0.1 m/s <sup>2</sup> to 199.9 m/s <sup>2</sup> Peak (r.m.s. *√2)
	Resolution	0.1 m/s <sup>2</sup>
	Accuracy	±(5 % + 2 digits) (LO: 10 Hz to 1 kHz) ±(10 % + 5 digits) (HI: 1 kHz to 10 kHz)
Velocity	Range	0.1 mm/s to 199.9 mm/s r.m.s.
	Resolution	0.1 mm/s
	Accuracy	±(5 % + 2 digits) (10 Hz to 1 kHz)
Displacement	Range	0.001 mm to 1.999 mm Peak-Peak (r.m.s. *√2)
	Resolution	0.001 mm
	Accuracy	±(5 % + 2 digits) (10 Hz to 1 kHz)
Piezoelectric sensor parameters	Frequency Response	10 Hz to 15 kHz
Amplitude units	Acceleration	g, m/s <sup>2</sup>
	Velocity	mm/s
	Displacement	mm
Environmental Specifications	Operating Temperature	-10 °C to 50 °C
	Storage Temperature	-30 °C to 60 °C
	Operating Humidity	30 % to 90 % (non-condensing)
	Operating Altitude	2,000 m
	Storage Altitude	12,000 m
	Ingress Protection Rating	IP 40
	Vibration Limit	500.0 m/s <sup>2</sup> peak
	Drop Test	1 m
	EMC	IEC 61326-1: Portable Electromagnetic;
CISPR 11	Group 1, Class A	

General specifications:	
Battery Type	2 AAA, IEC LR 03 3 V dc
Battery Life	Continuous measurement for 25 hours
Size (L x W x H)	241 mm x 710 mm x 588 mm
Weight	220 g
Headphone Jack	Stereo Audio Output Jack (3.5 mm Audio Plug)
External Sensor Jack	M12 connector

## Equipment Type

	● Good	● Acceptable	● Alarm
<b>Cooling tower fans</b>			
Long hollow shafts	0 – 9.525	9.525 – 15.24	15.24 –
Short coupling belt drives	0 – 6.985	6.985 – 10.795	10.795 –
Short coupling direct drives	0 – 5	5 – 7.5	7.5 –
<b>Compressors</b>			
Reciprocating	0 – 8.125	8.125 – 12.7	12.7 –
Screw compressors	0 – 6.985	6.985 – 10.795	10.795 –
Centrifugal, with or without gearboxes	0 – 5	5 – 7.5	7.5 –
Centrifugal, internal gearboxes, axial measurement	0 – 5	5 – 7.5	7.5 –
Centrifugal, internal gearboxes, radial measurement	0 – 3.81	3.81 – 6.35	6.35 –
<b>Blowers (fans)</b>			
Roots blowers	0 – 7.5	7.5 – 11.43	11.43 –
Belt-driven fans	0 – 6.985	6.985 – 10.795	10.795 –
General direct connection fans	0 – 6.35	6.35 – 9.525	9.525 –
Primary air fans	0 – 6.35	6.35 – 9.525	9.525 –
Large blowers	0 – 5	5 – 7.5	7.5 –
Large induced draft fans	0 – 4.445	4.445 – 6.985	6.985 –
Fans mounted directly on shafts	0 – 4.445	4.445 – 6.985	6.985 –
Axial flow fans	0 – 3.81	3.81 – 6.35	6.35 –
<b>Motors/generators</b>			
Belt drive	0 – 6.985	6.985 – 10.795	10.795 –
Direct connection	0 – 5	5 – 7.5	7.5 –
<b>Refrigerating machines</b>			
Reciprocating	0 – 6.35	6.35 – 10	10 –
Centrifugal (open)	0 – 5	5 – 7.5	7.5 –
Centrifugal (hermetic)	0 – 3.81	3.81 – 5.715	5.715 –
Large turbo-generator sets: Turbo-generator sets, 3500 rpm	0 – 6.35	6.35 – 9.525	9.525 –
Large turbo-generator sets: Turbo-generator sets, 1800 rpm	0 – 4.445	4.445 – 6.985	6.985 –
<b>Centrifugal pumps</b>			
Vertical pumps (305–508mm high)	0 – 9.525	9.525 – 15.25	15.25 –
Vertical pumps (203–305 mm high)	0 – 8.255	8.255 – 12.7	12.7 –
Vertical pumps (127–203 mm high)	0 – 6.35	6.35 – 10	10 –
Vertical pumps (0–127 mm high)	0 – 5	5 – 7.5	7.5 –
General horizontal pumps	0 – 5	5 – 7.5	7.5 –
Boiler feed pumps	0 – 5	5 – 7.5	7.5 –
Hydraulic pumps	0 – 3.175	3.175 – 5	5 –
<b>Machine tools</b>			
Motors/gearboxes	0 – 2.5	2.5 – 4.445	4.445 –
Gearbox input shafts	0 – 3.75	3.75 – 5.715	5.715 –
Gearbox output shafts	0 – 2.5	2.5 – 4.445	4.445 –
<b>Spindles</b>			
a. Rough machining	0 – 1.905	1.905 – 3.175	3.175 –
b. Finishing machining	0 – 1.25	1.25 – 1.905	1.905 –
c. Precision machining	0 – 0.76	0.76 – 1.25	1.25 –



**Order information**

802EN Vibration Meter included:

- Soft case
- Quick reference guide
- Safety information
- Two (2) AAA batteries

802ES optional accessories include:

- External sensor
- Extender
- Magnet base
- M12 RF connector spring cable assembly

Visit [fluke.com.au](http://fluke.com.au) to get complete details on these products or ask your local Fluke sales representative.

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