

Fluke 805 FC Vibration Meter

Technical Data

Now compatible with Fluke Connect™ Mobile App

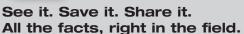
The reliable, repeatable, accurate way to check bearings and overall vibration.

Make go or no-go maintenance decisions with confidence. The Fluke 805 FC Vibration Meter is the most reliable vibration screening device available for frontline mechanical troubleshooting teams that need repeatable, severity-scaled readings of overall vibration and bearing condition.

What makes the Fluke 805 FC the most reliable vibration screening device available?

- Innovative sensor design minimizes measurement variations caused by device angle or contact pressure
- Consistent data quality at both low and high frequency ranges
- Four-level severity scale assesses urgency of problems for overall vibration and bearing condition
- Exportable data via USB
- Trending in Microsoft® Excel using pre-built templates
- Overall vibration measurement (10 Hz to 1,000 Hz) for acceleration, velocity and displacement units of measurement for a wide variety of machines
- Crest Factor+ technology provides reliable bearing assessment using direct sensor tip measurements between 4,000 Hz and 20,000 Hz
- Compare vibration levels with ISO-10816 severity scales and store results to the Fluke Connect Cloud
- Get authorization to take next steps in an instant if machine health is at risk via Fluke Connect™ Share– Live™ video call*
- Colored lighting system (green, red) and on-screen comments indicate how much pressure needs to be applied to take measurements
- Temperature measurement with Spot IR Sensor increases diagnostic capabilities
- On-board memory holds and saves up to 3,500 measurements
- External accelerometer support for hard to reach locations
- Flashlight for viewing measurement locations in dark areas
- Large screen with high resolution for easy navigation and viewing





Fluke Connect with ShareLive™ is the only wireless measurement system that lets you stay in contact with your entire team without leaving the field*. The Fluke Connect mobile app is available for Android™ (4.3 and up) and iOS (4s and later) and works with over 20 different Fluke products—the largest suite of connected test tools in the world. And more are on the way. Go to the Fluke website to find out more.

Make the best decisions faster than ever before by viewing all temperature, mechanical, electrical and vibration measurements for each equipment asset in one place. Get started saving time and increasing your productivity.

Download the app at:







Smart phone not included with purchase.

*Within provider's wireless service area.



What is Crest Factor +?

Fluke 805 FC with Crest Factor + takes the confusion out of bearing assessment

The original Crest Factor is used by vibration analysts to identify bearing faults. It is defined as the ratio of the peak value/RMS value of a time domain vibration signal.

A key limitation of using Crest Factor to identify bearing faults is that the Crest Factor does not increase linearly as the bearing degrades. In fact, the Crest Factor can actually decrease as a bearing nears catastrophic failure due to large RMS values.

In order to overcome this limitation, Fluke uses a proprietary algorithm known as Crest Factor + (CF+). CF+ values range from 1 to 16. As the bearing condition worsens, the CF+ value increases. To keep things simple, Fluke has also included a four-level severity scale that identifies the bearing health as Good, Satisfactory, Unsatisfactory or Unacceptable.

High Frequency 4,000 Hz to 20,000 Hz	17/12/2011 09:10 AM Bearing CF+	Bearing Vibration
Overall Vibration Frequency Range 10 Hz to 1,000 Hz	Overall Vibration (pk)	Overall Vibration
Temperature -20 °C to 200 °C	GOOD Temperature 20.7°C ID: Reci_Chiller_1 TYPE: Recip Chiller RPM: >600	IR Temperature

Exporting and Trending with the 805 FC

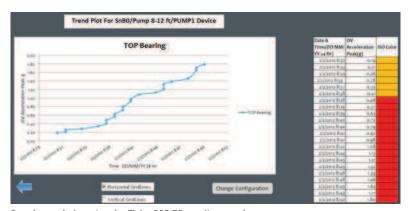
Export and Trend in Excel

Trending, or repeated vibration measurements kept in a spreadsheet over time, allows you to better track machine health. With 805 FC you can easily:

- Export your result to Excel through USB connection
- Trend the readings with the pre-built Excel templates and plot graphs
- Compare the overall vibration readings to ISO Standards (10816-1, 10816-3, 10816-7)

Import measurements from the 805 FC Vibration Meter to an Excel template on your PC in order to trend the bearing parameters: overall vibration, CF+, and temperature. Looking at just the number alone for the overall vibration or temperature might not be of much benefit to the operator or technician if they don't know what the number means. The user may not know what is normal or what indicates a problem.

If measurements taken on the operator rounds are easily loaded into Excel, then the trend will show patterns of something that is becoming abnormal. The user can now see a clear picture of the changing bearing condition and deteriorating health of the machine.



Sample trend plot using the Fluke 805 FC trending template.



Use the Fluke 805 FC Vibration Meter to check these machine categories:

Chiller (refrigeration)

- Reciprocating (Open motor and compressor separate)
- Reciprocating (Hermetic motor and compressor)
- Centrifugal (Hermetic or Open Motor

Fans

- Belt-driven Fans 1800 to 3600 RPM
- · Belt-driven fans 600 to 1799 RPM
- General direct drive fans (direct coupled)
- · Vacuum blowers (belt or direct drive)
- Large forced draft fans (fluid film brgs.)
- Large induced draft fans (fluid film brgs.)
- · Shaft-mounted intergral fan (extended motor shaft)
- Axial flow fans (belt or direct drive)

Cooling tower drives

- Long, hollow drive shaft (motor)
- Belt drive (motor and fan all arrangements)
- Direct drive (motor and fan all arrangemetns

Centrifugal Pumps

Note: height is measured from grade to top motor bearing

- · Vertical pumps (12' to 20' height)
- Vertical pumps (8' to 12' height)
- Vertical pumps (5' to 8' height)
- · Vertical pumps (0' to 5' height)
- Horizontal centrifugal end suction pumps direct coupled

- Horizontal centrifugal double suction pumps direct coupled
- Boiler feed pumps (turbine or motor driven)

Positive Displacement Pumps

- Positive displacement horizontal piston pumps (under load)
- Positive displacement horizontal gear pumps (under load)

Air compressors

- Reciprocating
- · Rotary screw
- Centrifugal with or without external gearbox
- Centrifugal internal gear (axial meas.)
- Centrifugal internal gear (radial meas.)

Rlowers

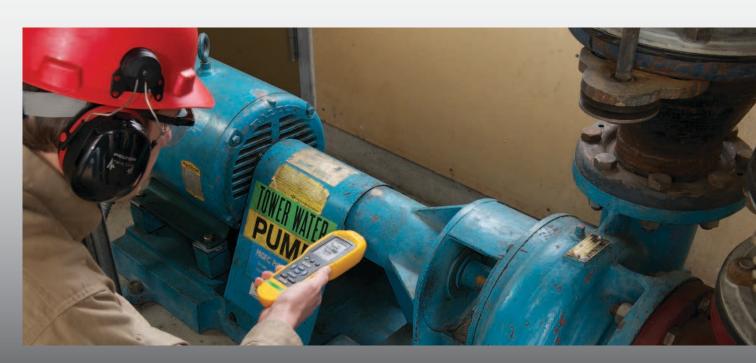
- Lobe-type rotary blowers (belt or direct drive)
- Multi-stage centrifugal blowers (direct drive)

Generic gearboxes (rolling element bearings)

Single stage gearbox

Machine tools

- Motor
- Gearbox input
- Gearbox output
- Spindles roughing operations
- · Spindles machine finishing
- Spindles critical finishing





Technical specifications

Vibration meter		
Low frequency range	10 Hz to 1,000 Hz	
(overall measurement)	10 12 10 17000 12	
High frequency range (CF+ measurement)	4,000 Hz to 20,000 Hz	
Severity levels	Good, Satisfactory, Unsatisfactory, Unacceptable	
Vibration limit	50 g peak (100 g peak-peak)	
A/D converter	16-bit	
Signal to noise ratio	80 dB	
Sampling rate		
Low frequency	20,000 Hz	
High frequency	80,000 Hz	
Real time clock backup	Coin battery	
Sensor		
Sensitivity	100 mV / g ± 10%	
Measurement range	0.01 g to 50 g	
Low frequency range (overall measurement)	10 Hz to 1,000 Hz	
High frequency range (CF+ measurement)	4,000 Hz to 20,000 Hz	
Resolution	0.01 g	
Accuracy	At 100 Hz ± 5 % of measured value	
Amplitude units		
Acceleration	g, m/sec ²	
Velocity	in/sec, mm/sec	
Displacement	mils, mm	
Infrared thermometer (tempe	rature measurement)	
Range	-20 °C to 200 °C (-4 °F to 392 °F)	
Accuracy	±2 °C (4 °F)	
Focal length	Fixed, at ~3.8 cm (1.5")	
External sensor Note: Fluke supports, but does not provi	ide, external sensors.	
Frequency range	10 Hz to 1,000 Hz	
Bias voltage (to supply power)	20 V dc to 22 V dc	
Bias Current (to supply power)	Maximum 5 mA	
Firmware	<u>'</u>	
Calibration		
	Factory calibration required	
External interfaces	Factory calibration required USB 2.0 (full speed) communication	
External interfaces	USB 2.0 (full speed) communication	
External interfaces Data capacity	USB 2.0 (full speed) communication Database on internal flash memory	
External interfaces Data capacity Upgrade	USB 2.0 (full speed) communication Database on internal flash memory through USB	
External interfaces Data capacity	USB 2.0 (full speed) communication Database on internal flash memory	
External interfaces Data capacity Upgrade Memory Radiated emission	USB 2.0 (full speed) communication Database on internal flash memory through USB	
External interfaces Data capacity Upgrade Memory	USB 2.0 (full speed) communication Database on internal flash memory through USB Up to 3,500 measurements	

^{*}RF connection time (binding time) can take up to 1 minute.

Environmental		
Operating temperature	-20 °C to 50 °C (-4 °F to 122 °F)	
Storage temperature	-30 °C to 80 °C (-22 °F to 176 °F)	
Operating humidity	10 % to 95 % RH (non-condensing)	
Operating/ Storage altitude	Sea Level to 3,048 meters (10,000 feet)	
IP rating	IP54	
Vibration limit	500 g peak	
Drop test	1 meter	
General specifications		
Battery type	AA (2)Lithium Iron Disulfide	
Battery life	250 measurements	
Size (L x W x H)	25.72 cm x 16.19 cm x 9.84 cm (10.13 in x 6.38 in x 3.875 in)	
Weight	1.16 kg (2.55 lb)	
Fluke Connect™ mobile app compatible*	Yes	
Connectors	USB mini-B 7-pin, external sensor jack (SMB connector)	

Ordering information

Fluke-805 FC Vibration Meter

Includes: 805 FC Vibration Meter, USB cable, storage case, belt holster, quick reference guide, CD-ROM (includes MS Excel template and documentation), and four AA batteries.

Fluke. Keeping your world up and running.®

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