

# Impact Hammer

- Measures stimulus (force) of impact
- Excites structures quickly and conveniently to find resonances
- Generates data for modal analysis
- Checks quality on new and rebuilt machinery
- Interfaces with Advanced Cross-Channel Analysis downloadable program for the CSI 2130 Machinery Health Analyzer



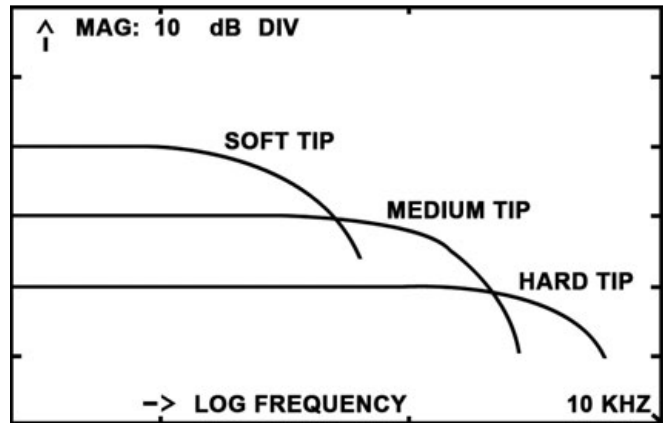
The CSI Impact Hammer Kits have been industry proven to help determine resonance frequencies of machines, machine foundations, and other structures. Impact testing with a modal/impact hammer determines the presence of resonant frequencies, structural cracks, and dynamic stiffness. With the many varied tips included in the kits, the hammers can be tailored to fit your specific application, from small objects like compressor blades to much larger objects like paper machines. The hammer's mass, cushioning, and impact velocity shape the impulse waveform to determine the frequency range.

The hammer is most useful when teamed with a CSI 2130 and its cross channel analysis downloadable programs, which is easy enough for an inexperienced user to understand. When used together, the relationships between the hammer and the vibration sensor are calculated through convenient, preconfigured default setups to make the jobs simple.

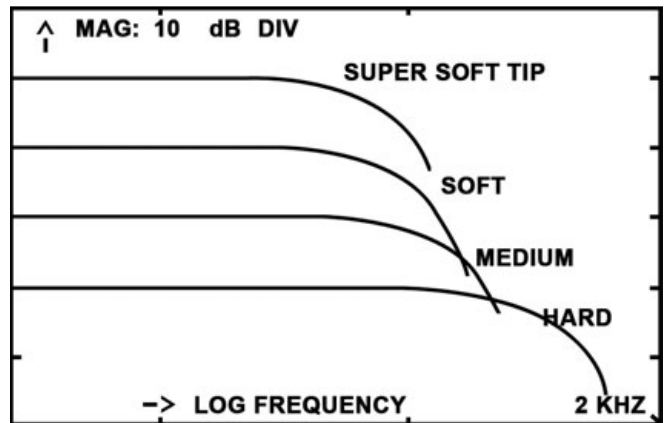
Emerson's Impact Hammer Kits are just another addition to the family of machinery health products and services, designed to decrease your maintenance costs and improve your profitability.

## Hammer Behavior: Function Transfer vs. Frequency

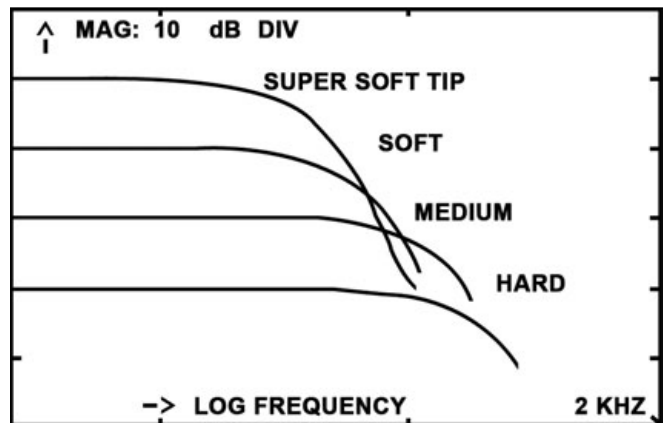
Striking an object with an instrumented hammer excites it with a nearly constant force and a broad frequency range. The frequency range is determined by the hammer's structure, which can be varied with different tips and extenders.



Model #A034701



Model #A034703



Model #A034712

## Technical Specifications

### Model #A034701

Tests medium structures like turbine or fan blades and machine parts at low and medium frequencies.

Frequency Range	8 kHz
Hammer Range (5v output)	500 lbf (2200 N)
Hammer Sensitivity (approx)	10mV/lbf (2.3 mV/N)
Resonant Frequency	31 kHz
Hammer Mass (w/o extender)	0.3 lb (0.14 kg)
Head Diameter	0.6 in (1.5 cm)
Tip Diameter	0.25 in (0.63 cm)
Handle Length (nominal)	8 in (20 cm)

### Model #A034703

Tests medium and heavy structures like motor/pump combinations and bearing pedestals at low and medium frequencies.

Frequency Range	1 kHz
Hammer Range (5v output)	5000 lbf (22200 N)
Hammer Sensitivity (approx)	1 mV/lbf (0.23 mV/N)
Resonant Frequency	12 kHz
Hammer Mass (w/o extender)	3 lb (0.14 kg)
Head Diameter	2 in (5 cm)
Tip Diameter	2 in (5 cm)
Handle Length (nominal)	13 in (33 cm)

### Model #A034712

Tests very heavy structures like paper machines and machine foundations. 12 lbs; 3-inch diameter steel head.

Frequency Range	0.5 kHz
Hammer Range (5v output)	5000 lbf (22200 N)
Hammer Sensitivity (approx)	1 mV/lbf (0.23 mV/N)
Resonant Frequency	2.7 kHz
Hammer Mass (w/o extender)	12 lb (5.4 kg)
Head Diameter	3 in (8 cm)
Tip Diameter	3 in (8 cm)
Handle Length (nominal)	35 in (89 cm)



Model #A034701



Model #A034712



Model #A034703

**Emerson Process Management**  
**Asset Optimization**  
835 Innovation Drive  
Knoxville, TN 37932  
T (865) 675-2400  
F (865) 218-1401  
[www.EmersonProcess.com](http://www.EmersonProcess.com)

©2011, Emerson Process Management.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.

All rights reserved. The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their respective owners.