

# SKF Microlog Bump Test Module

## Bump Test module concept

A bump or rap test is a simple repeated impact test applied to a machine or product to excite the structure. This allows you to measure its natural frequencies. A bump test is carried out to determine if resonance is responsible for high noise or vibration levels.

Instrument settings are very similar to those for the Analyzer module. The difference is that the signal involved is not steady state and its magnitude will vary. Therefore, input amplifier auto-ranging cannot be used; the expected input range has to be set manually.

## Bump Test module

The magnitude of the signal will depend on:

- The frequency response of the structure
- The force being applied (how hard it is being hit)
- The mass of the hammer being used (how big the hammer is)
- The sensitivity of the accelerometer

Therefore, estimation has to be made of the expected full scale range of the signal in transducer units.

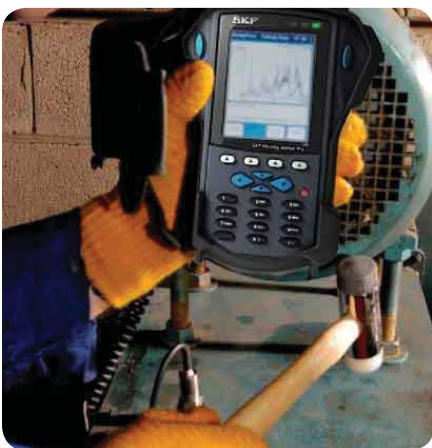


Figure 1. Performing a bump test.

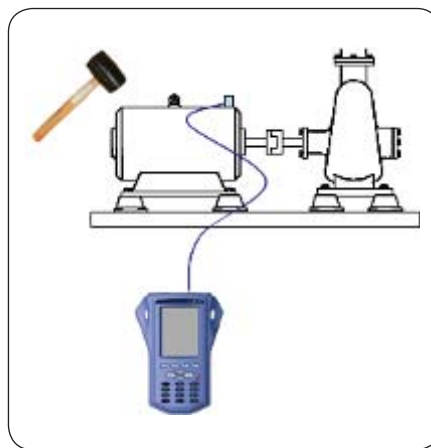


Figure 2. Example of a bump test setup.

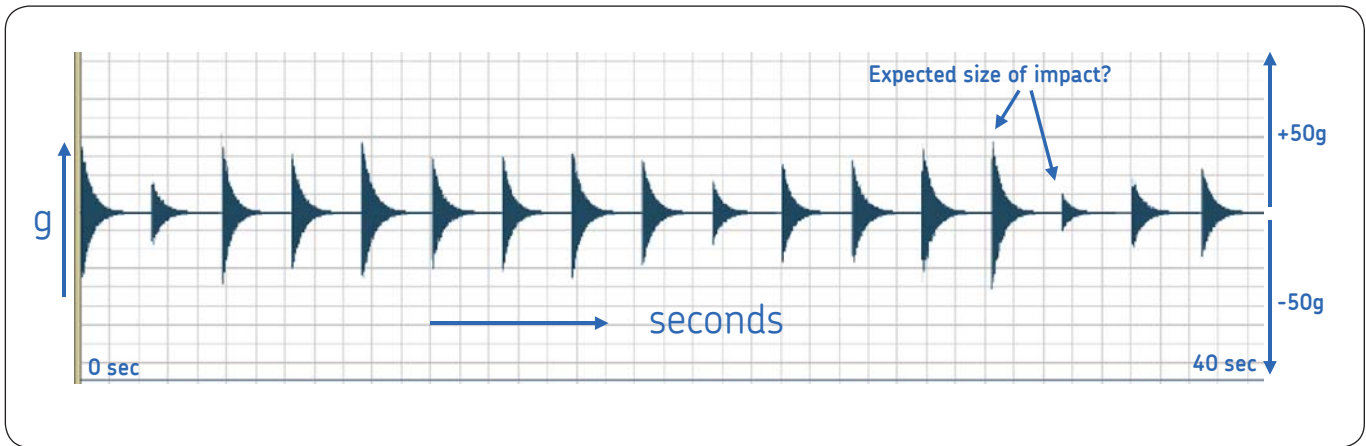


Figure 3. Magnitude of signal and expected size of impact.

The Bump Test module allows two types of averaging to take place:

- **Exponential** is a continuously moving average.
- **Peak Hold** holds the highest spectral peaks that are measured during the test.

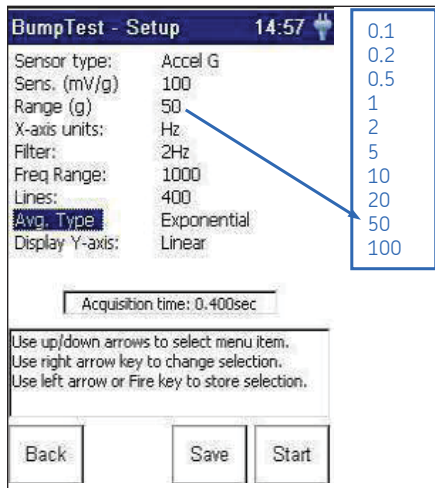


Figure 4. The "Range" options on the Bump Test - Setup screen change based on the transducer type selected.

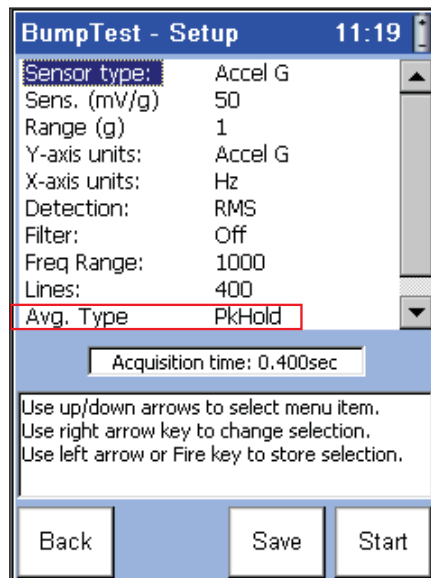


Figure 5. Bump Test - Setup screen, averaging type option.

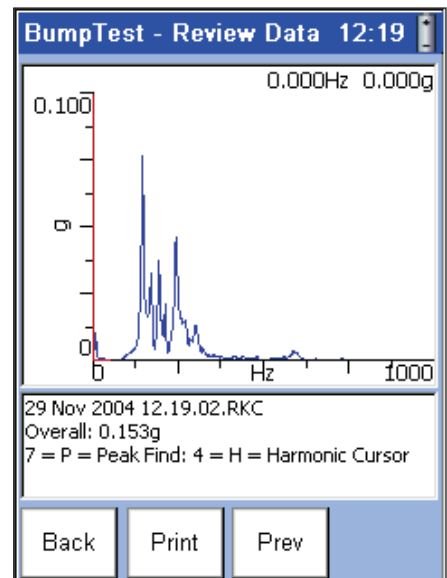


Figure 6. Bump Test - Review Data screen.

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