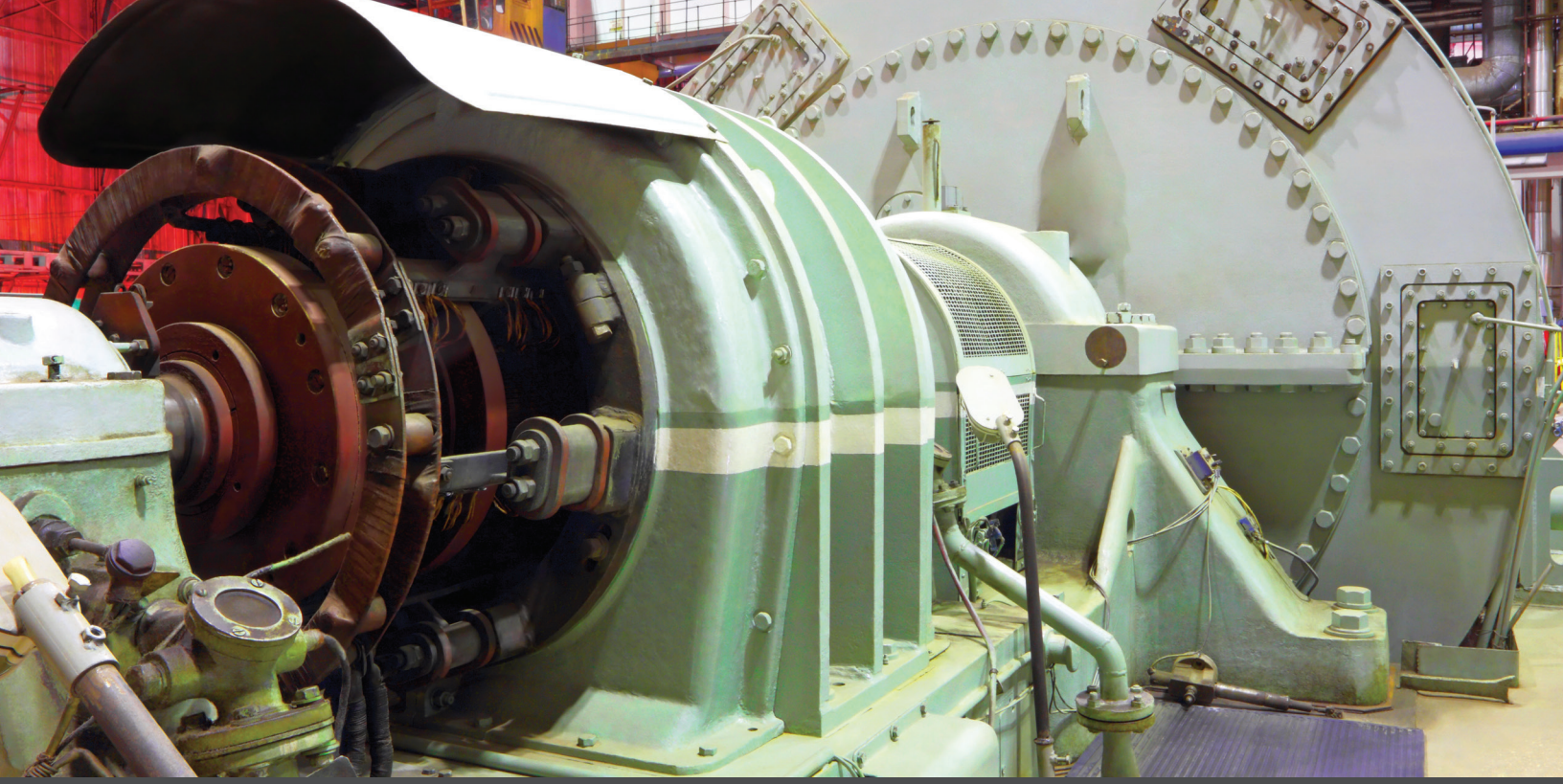
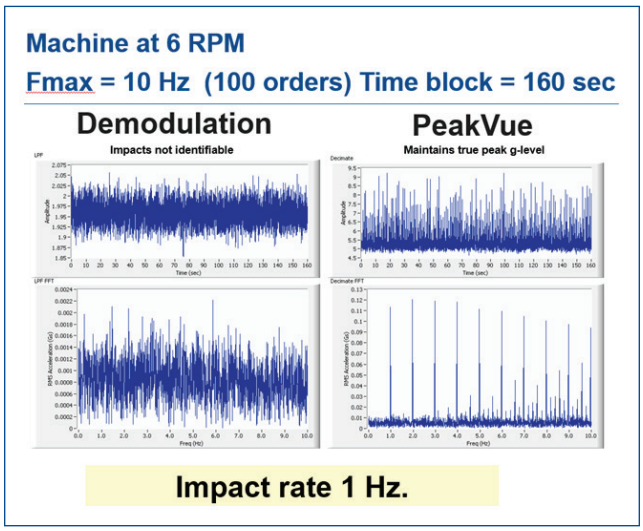


Understanding PeakVue™ Signal Processing

PeakVue™ signal processing differs from normal vibration data acquisition signal processing in five major ways. First, PeakVue uses a high-pass filter instead of a low-pass filter. Elimination of the normal vibration frequencies below the selected Fmax allows acquisition of high-frequency stress waves. By allowing only higher frequencies to pass through the filter, which must be set at the measurement's Fmax or higher, the AMS 2140 can optimally record the machine's repetitive stress wave emissions.



Second, PeakVue uses a fixed sample rate of 102,400 samples per second. In normal vibration data acquisition, the sample rate is calculated from the selected Fmax where the sample rate = Fmax x 2.56 to ensure that no signal aliasing effect is permitted. For normal vibration, setting a low Fmax results in a low sample rate. In PeakVue, the sample rate is fixed at 102,400 samples per second, which permits data capture and analysis of high-frequency stress waves, even for slow speed equipment.

Third, the PeakVue waveform is comprised of stored peak amplitude values, thus enabling severity determination and trending available to the analyst. The waveform data is comprised of the highest amplitude (peak amplitude) sampled in a period calculated by taking the inverse of the Fmax x 2.56, or one over the normal vibration measurement's sample rate. The PeakVue waveform consists of decimated waveform peaks from the original PeakVue samples over a time period equal to the normal measurement point's sample period.

Fourth, full-wave rectification is used to provide a waveform display of zero to peak temporal values. The PeakVue waveform will never have any negative values.

Fifth, unlike normal data acquisition which may require several averages of data, only one average of the waveform is used to compute the PeakVue spectrum.

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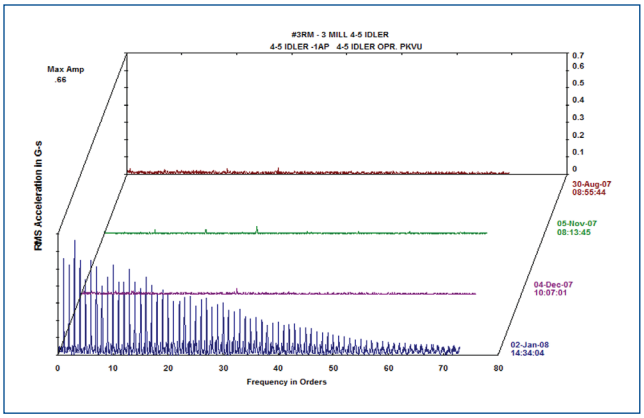

Finally, the major rules for data acquisition must also be followed to obtain proper PeakVue data, which is always acquired with an accelerometer. In addition, no integration is permitted, so the data is always stored and analyzed in acceleration units. Proper selection of the number of lines of resolution will ensure that the waveform length will capture at least 15 shaft revolutions. Following these simple rules (and a few others, depending upon the application) and understanding PeakVue signal processing will create an environment for successful PeakVue data acquisition and analysis.

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