

Using vibDaq for Pump Test

Cal-Bay Systems

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Lowering Your Risk in Functional Test

Nuclear Power Plant Charge Pumps

- For Pressurized Water Reactors (Most Commercial Nuclear Power Plants are PWR)
- Supplies high pressure water to the reactor
- Reconditioned Pumps need to pass two key tests
 - Pump Performance
 - Vibration



Example: 11 Stage Centrifugal Charging Pump

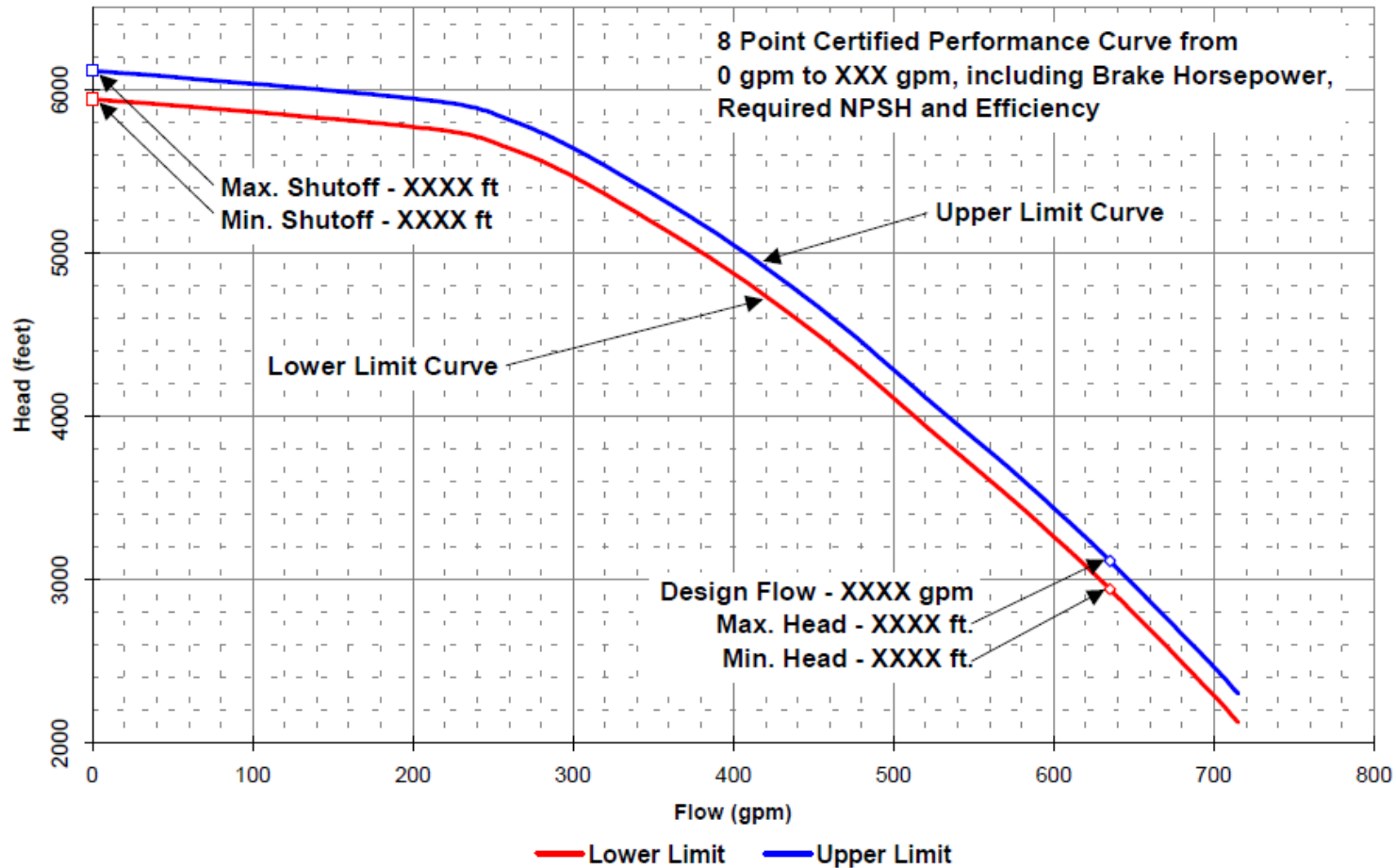


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Pump Performance – Flow vs. Pressure

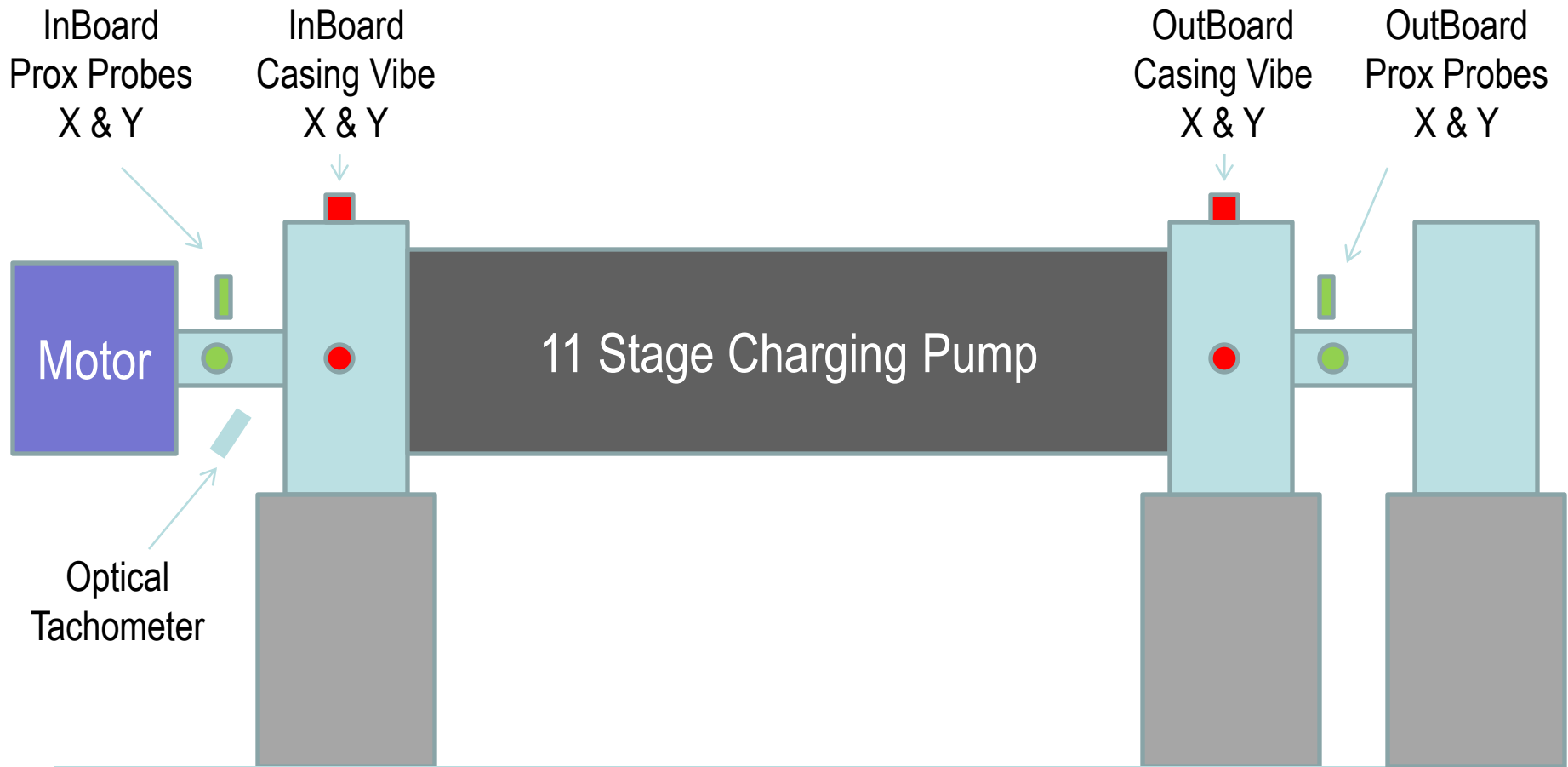


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Vibration Test – Sensors



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Vibration Test – Specifications

- Bearing Cap Absolute Velocity
 - 10 to 500 Hz
 - RMS value scaled to peak
 - 0.15 in/second
- Bearing Cap Absolute Velocity
 - DC to 1000 Hz
 - Peak to Peak
 - 0.0015 inch limit
- “Recommended but not required” to account for effect of test stand skid.



vibDaq System Used to Perform Test

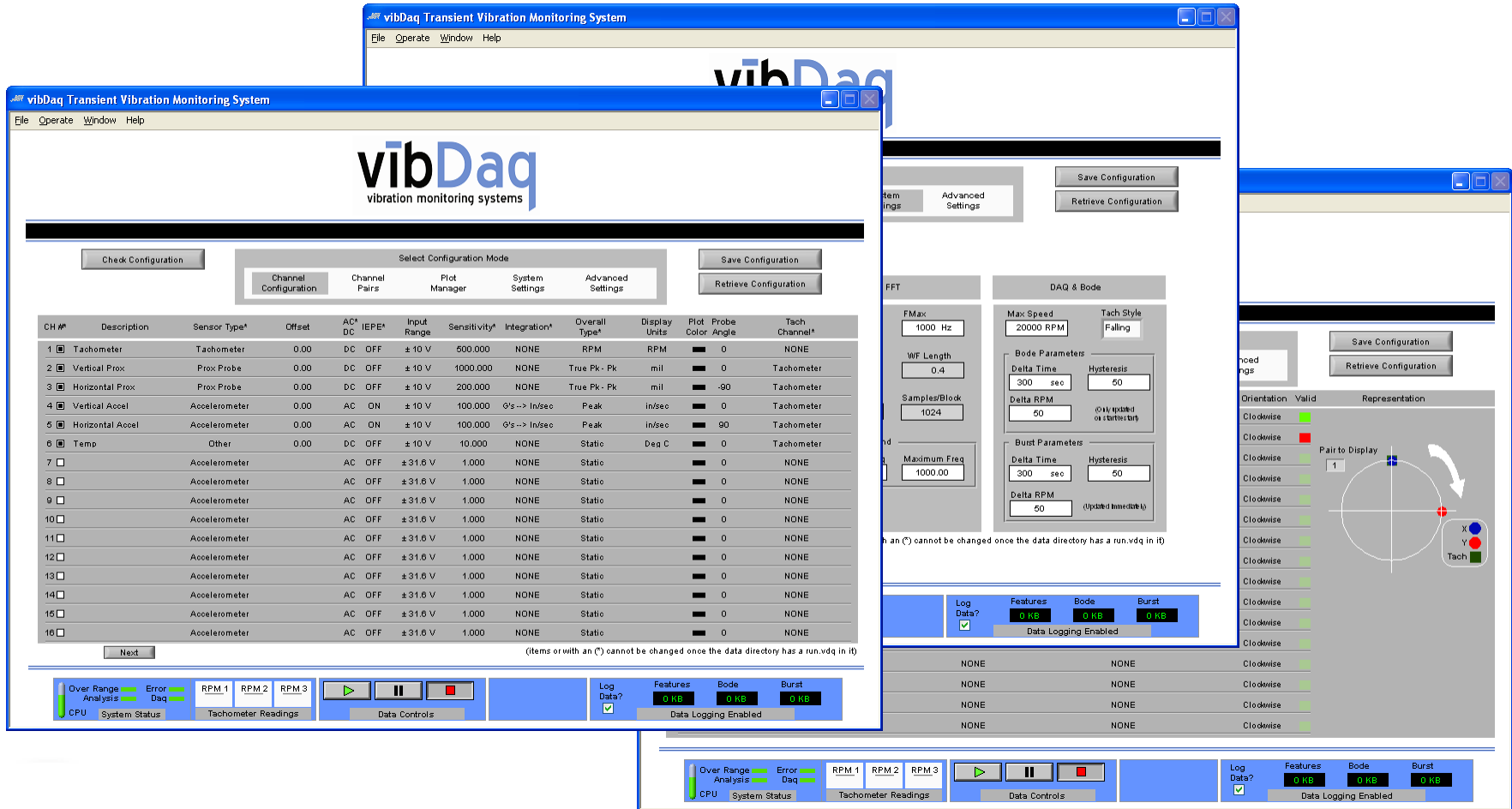


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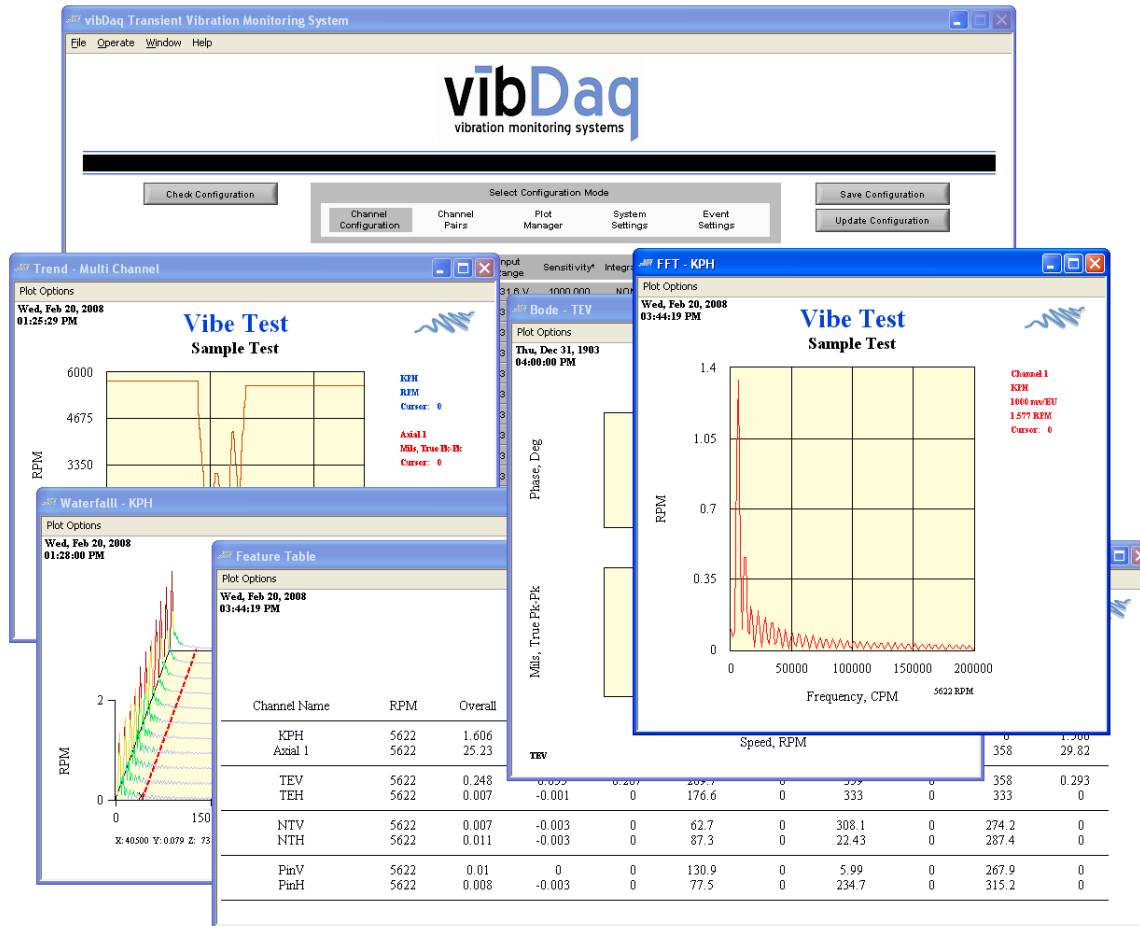
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vibDag – Configuration



vibDaq – Viewing Data

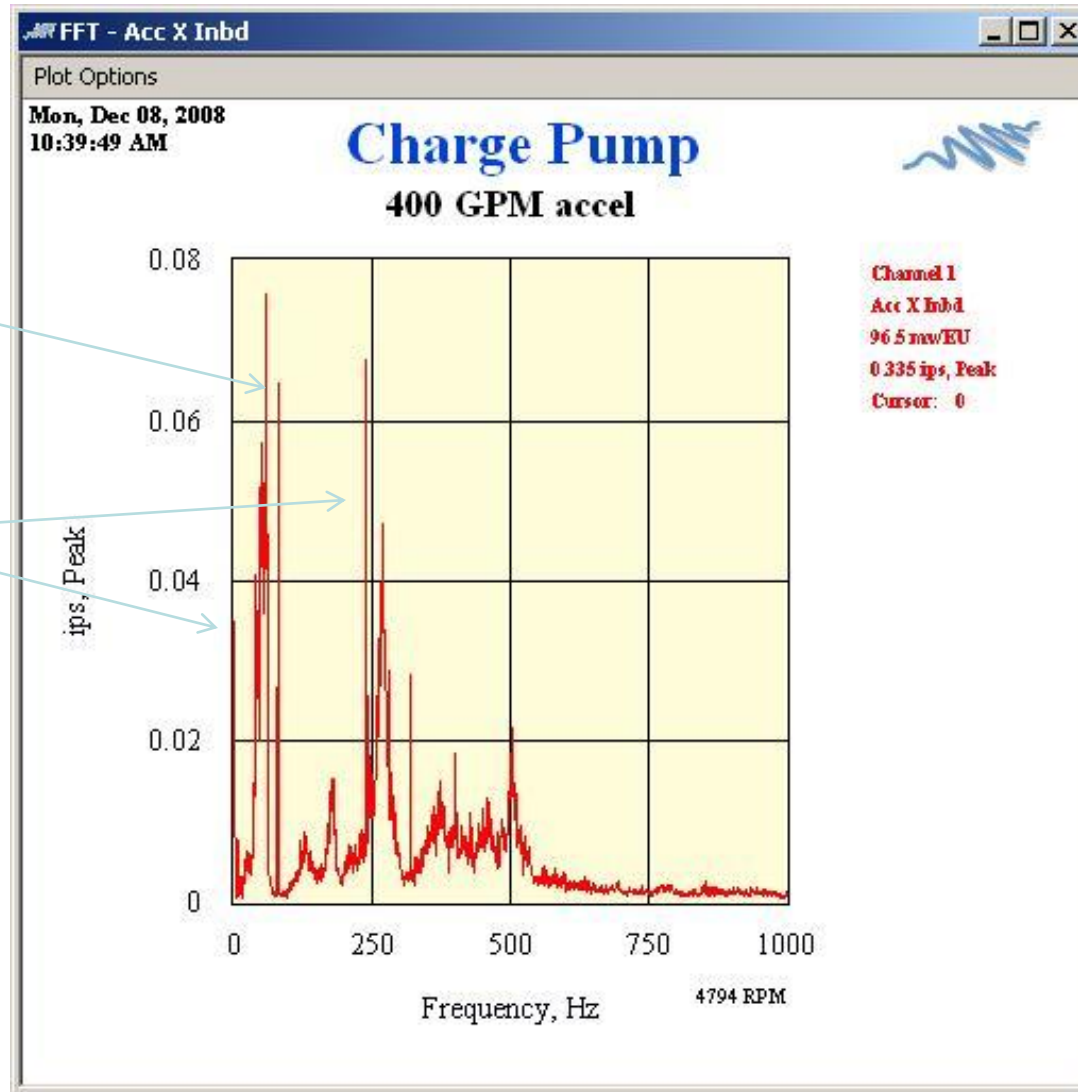


- Time Waveform
- FFT
- Orbit
- Bode
- Polar
- Shaft Centerline
- Waterfall
- Feature Table
- Trend

Test Data – Casing Vibration

Pump Related
Vibration @
4800 RPM

Flow
Noise



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Test Data – Shaft Vibration

