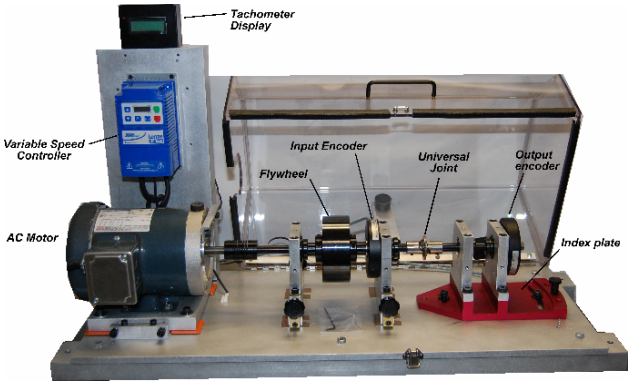
SpectraQuest introduces Torsional Vibration Calibrator (TVC)

- ***Ideal device to verify the accuracy of torsional vibration measurement devices***
- ***Adjustable yet constant speed variation of known magnitude and frequency can be introduced***
- ***Validate theoretical principles with measured response***
- ***Encoders are provided on both input and output shafts***
- ***Heavy flywheel reduces the input speed fluctuation***
- ***Hooke's joint can be adjusted from -25 to +25 degrees***
- ***Develop advanced signal processing techniques***



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Commercial torsional vibration measurement instruments are often calibrated in software. To verify the accuracy of torsional vibration measurement devices, it is essential to check the results against known input. Also, since the associated hardware is subject to damage and deterioration over the time they need to be periodically recalibrated like any other measurement instrument. For this purpose, SpectraQuest introduces the Torsion Vibration Calibrator, specifically designed to verify the accuracy of torsional measurement devices. It provides an adjustable yet constant speed variation (or torsion vibration) of known magnitude and frequency.

Typical commercial torsional vibration measurement instruments can be attached to the output shaft to check for accuracy and repeatability. The speed variation is achieved by driving a single Hooke's joint (universal joint) with a 1/2 horsepower AC motor, controlled by a high quality digital drive. Misalignment is restricted such that it can only occur in one plane. The input speed fluctuation is minimized using a heavy flywheel. The physical nature of a single Hooke's joint is that the angular velocity of the driven shaft will vary at twice the input speed and at predictable amplitude, depending on the amount of angular misalignment. By knowing the input speed and the angle of intentional misalignment, the speed variation (or torsional vibration) on the output shaft can be calculated. Hence, the torsional vibration measuring instrument to be checked can be precisely driven in a know and controlled manner. Any deviation from the expected value is then the instrument error. Additionally, the TVC can be used as a means to check the accuracy of vibration measuring instruments that track speed variation, an educational aid, and a laboratory device to assist with modeling and rotor dynamics development. The Hooke's joint can be adjusted from -25 to +25 degrees. All components are precision machined and anodized. The device is mounted on channels to increase lateral stiffness and provide a rigid foundation. The entire machine is set of six vibration isolators to avoid the influence of vibration from the surrounding structures. It also comes with a training book and complete operations manual & videos to assist with exercises and learning. Various high value combination packages are also available to fit customer requirements. Please download the brochure at http://www.spectraquest.com/resources/downloads/ for more details.

About SpectraQuest

SpectraQuest is a leading developer and manufacturer of turnkey systems and products for enhancing reliability of rotating and reciprocating machinery. These products are ideal platform for research and education in machine fault diagnosis/prognosis, teaching dynamics and vibration courses, and wind turbine drivetrain studies. The distinguishing feature of SpectraQuest is a wide variety of Machinery Fault Simulators and Custom Designed Test Rigs which are sold in over forty five countries around the world. Further information is available at http://www.spectraquest.com/.

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