

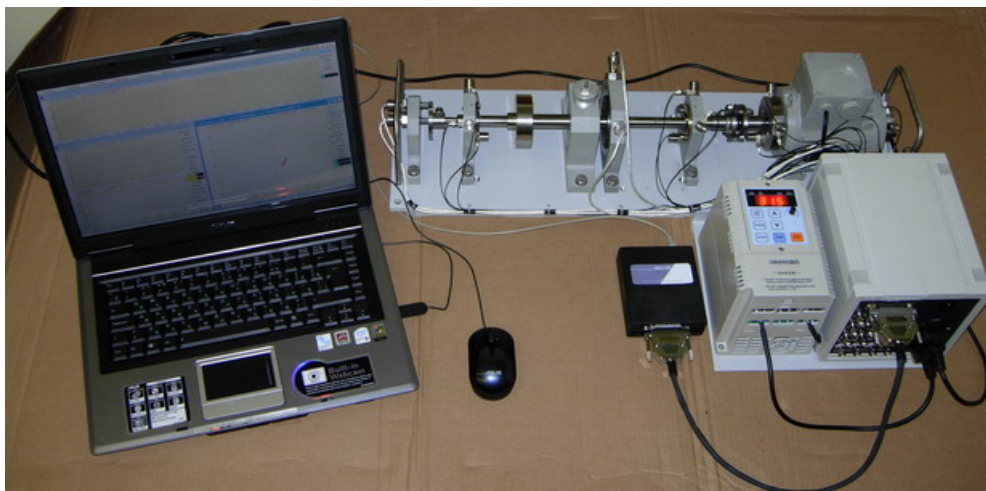
Simulation Workbench VTI7000

Destination:

- Development and demonstration of methods of balancing adjustment and vibration control of rotary industrial equipment.

Features:

- Unique opportunity of digital recording and data postprocessing of measurement and also opportunity of connection of external equipment.
- Measurable parameters of vibration: vibration acceleration (12 channels); vibration displacement (3 channels); phase (1 channel).
- Opportunity of simulation of different running regimes of industrial equipment:
 - runaway - braking electromotor according to definite algorithm with change of rotation velocity from 60 up to 3000 rpm;
 - unbalance and balancing adjustment of device simulators in proper support;
 - misalignment of motor axis and device simulators;
 - bend axis and device simulator;
 - variation of clearance and friction conditions in friction bearing;
 - realization of shaft bearing on frictionless bearing;
 - variation of harshness of mechanical connection «device - base»;
 - defects of rolling element in bearing;
 - fastening defects of shafts;
 - diagnostics of plate clutch.



Address:100 N.LaSalle Chicago,IL 60602,USA

Tel:001-888-534-9143 Fax:001-510-839-5888

Website: www.vti-test.com Email:info@vti-test.com

Parameter	Unit	VTI7000
Supply.....	V	220
(at the frequency).....	(Hz)	(50)
Required power.....	W	≤ 300
Rotation velocity adjustable in range.....	rpm	60 ... 3 000
Output signal		
- of AC for channels of vibration acceleration....	V	5
- for channels of vibration acceleration		0 ... 24
Weight without computer (gross weight).....	kg	≤ 21 (≤ 35)
Dimensions, no more than.....	mm	660×420×190
Measurement error rms value of vibration acceleration in frequency range:.....	%	
- up to 5 000 Hz		≤ 6
- up to 10 000 Hz		≤ 12
- up to 2 000 Hz		≤ 5
RMS natural noise value		
reduced to the input on vibration acceleration....	μm	≤ 5

Configuration of computer-based system of bench control:

- Notebook with set software of digital recording and signal processing;
- Module of analog-digital converter «Sigma USB».

Software opportunities

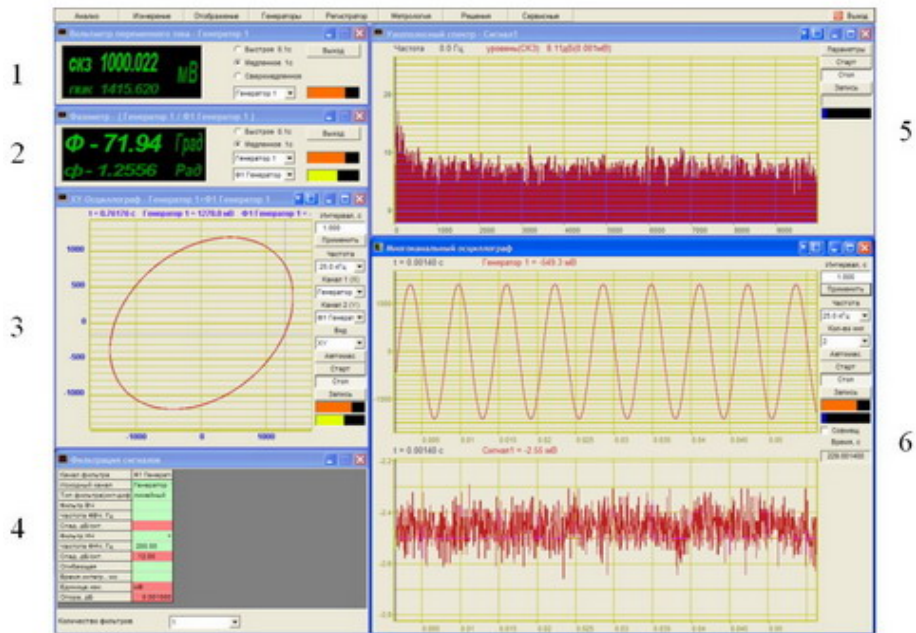
Software allows to take a measurement by means of the follow devices:

- Harmonic analyzer - narrowband Fourier analysis (Figure, window 5);
- AC voltmeter - measurement of rms value and peak value of signal voltage;
- DC voltmeter - measurement of constant signal voltage level;
- Selective voltmeter - measurement of rms value and peak value of voltage of fundamental signal wave (Figure, window 1);
- Frequency indicator - measurement of signal frequency and cycle;
- Phasometer - measurement of phase difference of two signals (Figure, window 2);
- Multichannel oscillograph - presentation of temporary development of signals (Figure, window 6);
- X Y - oscillograph - presentation of parametric dependence between two signals (Figure, window 3);
- Signal filtering - set of high-frequency filter and low-frequency filter with simultaneous signal integration and derivation (Figure, window 4).

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Software also allows to record of measured signals on computer hard disk for their further reproduction and processing.

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