

DC-23

**Dual channel
vibration analyzer**

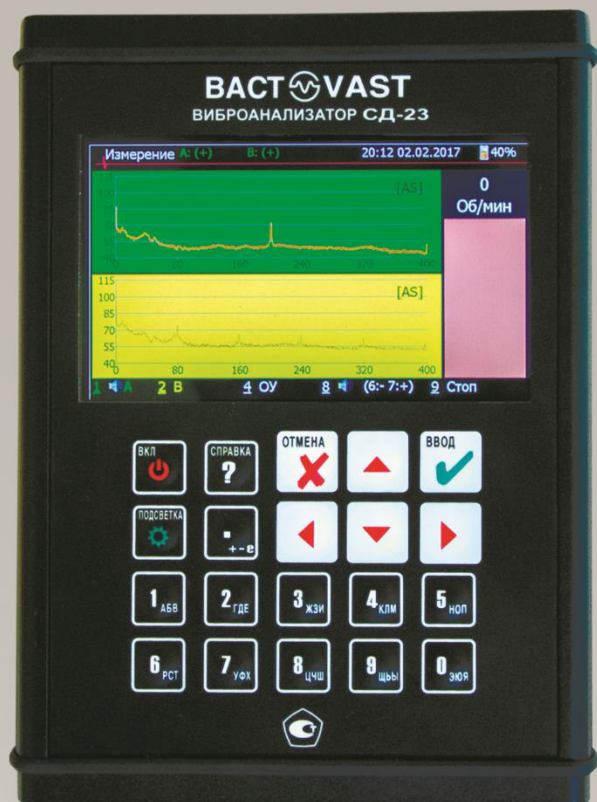


**Corporate system
of vibration monitoring
and diagnostics**

DREAM 5

DC-23

Dual channel Vibration analyzer



MONITORING AND DIAGNOSTICS:

- Time signal (oscilloscope mode)
- Vibration levels in bands according to GOST ISO and other
- Peak-factor
- autospectrum
- cross spectrum
- Enveloped spectrum
- Orbits
- rotation speed
- amplitude and phase of the signal on the rotation frequency

BALANCING

- 1, 2, 3, 4 - planes balancing
- Up to 5 measurement planes
- Influence coefficients calculation
- Trial mass calculation, addition and division of balancing mass
- Balancing reports

VIBRATION ADJUSTMENT

- amplitude-phase characteristics during run-up/coast-down of the machine
- resonance analysis, induced by shock. Calculation of natural oscillation damping frequencies and decrements.

5th generation of vibration analyzers!

DC-23 is a dual channel vibration analyzer of the new generation.

Main device feature – two-channel simultaneous and synchronized data collection. All measurement results are acquired from single time signal.

This approach allows to cut down the measurement time by 3-6 times in comparison with previous generation vibration analyzers.

New features:

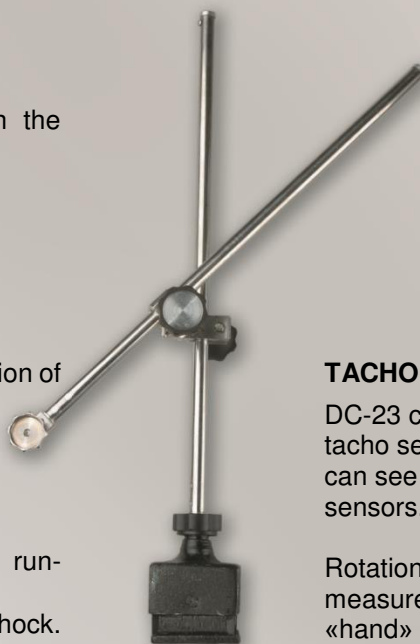
- Increase of max frequency up to 51200 Hz
- Increase of frequency resolution up to 51200 lines
- new types of measurements added



SENSORS

Vibration analyzer is used for measurement of vibration, electric current etc. Accelerometers and proximeters are used for measurement of vibration.

Current clamps are used for electric current measurements.



TACHO SENSORS

DC-23 can operate with wide range of tacho sensors. On the picture above, you can see photo and eddy current tacho sensors.

Rotation speed can be measured from «hand»

EARPHONES

For audio monitoring earphones are available.

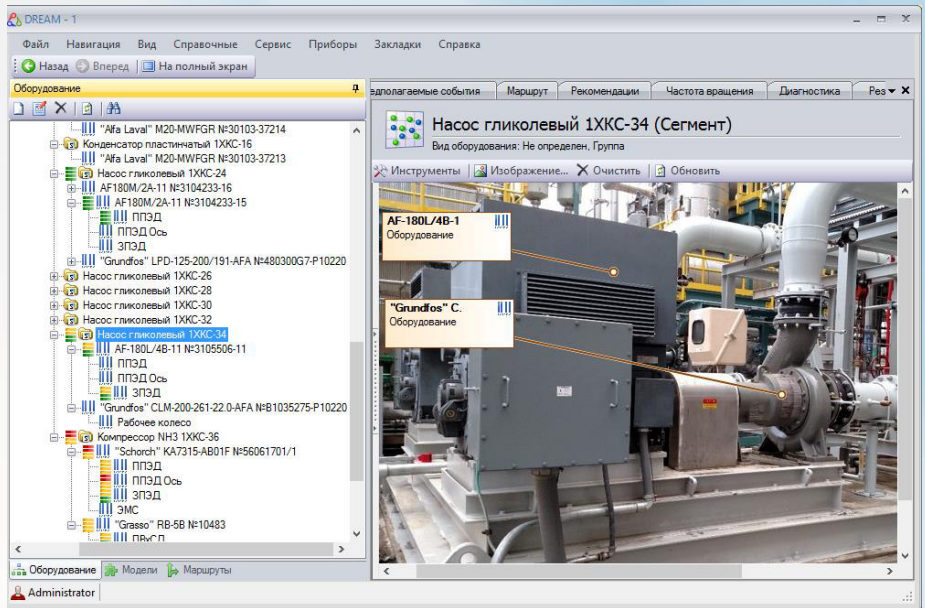


DREAM 5

Corporate system of vibration monitoring and diagnostics

DREAM® version 5 is used as corporate or individual system, that allows:

- Vibration control
- Condition monitoring
- Detailed diagnostics of elements of rotating equipment
- Complex diagnostics of machine as a whole
- Technical condition forecast
- Planning of technical maintenance
- Transition to condition-based maintenance
- Operation in portable and stationary variants



VIBRATION MONITORING

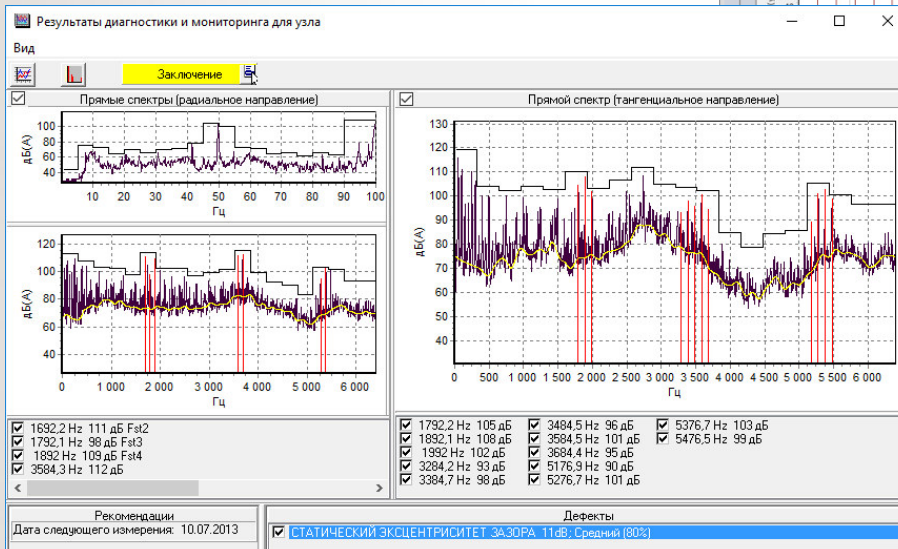
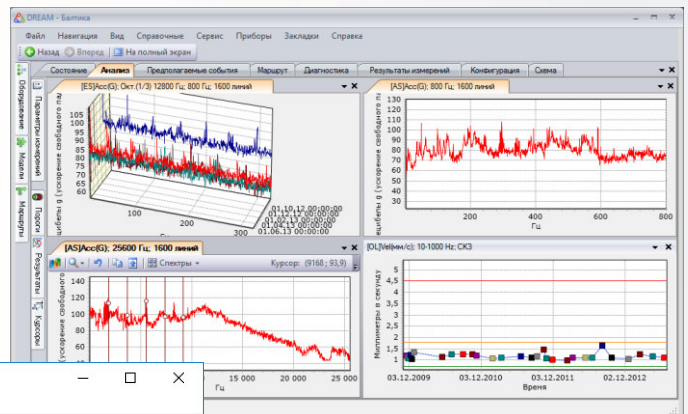
- Vibration monitoring according to GOST-ISO 10816, 25364 with automatic measurements configuration.
- Analysis and trends of vibration levels, autospectrum, enveloped spectrum, any scalar parameters.
- Identification of events of vibration rise above preset thresholds. Forecast of possible accident events.
- Set up of any kind of vibration thresholds.

AUTOMATIC REPORTS AND ON-LINE WORK

- Automatic report creation in Microsoft Word format, including graphs, tables etc.
- Customization of reports
- Data transfer between ACS MRO of the enterprise
- Operation in common network of the factory/company.

AUTOMATIC DIAGNOSTICS AND CONDITION FORECAST

- Automatic configuration of measurements according to the machine type.
- Automatic identification of type and severity of defect
- Automatic long-term forecast of equipment technical condition, maintenance recommendations
- Automatic scheduling of next measurement and repair operations



Название	Описание	Производитель
SKF6305		Назначить...
SKFNU211E		Назначить...
SKF6317		Назначить...
SKF6307		Назначить...

Тип	Данные	Единицы
Диаметр внутреннего кол.	55	Миллиметры
Диаметр наружного кольца	100	Миллиметры
Диаметр тел качения	12	Миллиметры
Количество тел качения	17	Целые десятичные числа
Угол контакта, градусов	0	Целые десятичные числа

Specification DREAM for Windows

Application

Vibration monitoring of machines and equipment
Vibration analysis
Automatic diagnostics of equipment technical condition
Automatic long-term condition forecast
Manual vibration analysis and technical diagnostics
Maintenance recommendations
Transfer to condition-based maintenance and repair
Automatic report generation
Interaction with ACS MRO

Data base configurations

Hierarchy levels	• Not limited
Measurement setup	• Automatically according to GOST ISO • Automatically according to machine specification • custom

Vibration monitoring

Types of monitoring	• According to GOST-ISO 10816 and others • Spectras in various frequency bands • Levels of vibration and other parameters
Thresholds setup	• Automatic thresholds setup according to GOST-ISO • Automatic thresholds setup according to machine specification • Custom thresholds setup
Monitoring-based diagnostics	• Identification of any events of vibration rise • Identification of machine condition according to events

Automatic diagnostics

Types of diagnostics	• Separate machine element • Machine as a whole, based on results of each machine element diagnostics with recommendations «Operation allowed», «Operation not allowed» • Integral evaluation based on monitoring and diagnostics • It is possible to conduct several diagnostics for one element
Automatic diagnostics module	• Sleeve bearings • Roller bearings • Gears, differentials • Chain and pulley gearing • Shafts and couplings • Pumps and fans rotor wheels • Motor pumps • Turbines and compressors rotor wheels • Electromagnetic system (motors and generators)
Diagnostics results	• Period of safe operation • Type and severity of each defect • Repair and maintenance recommendations • expert resume on each element and machine as a whole
Each diagnostics module detects up to 14 different types of defects	• Assembly and installation defects, which can be dealt with promptly, thus increasing the life of the equipment, such as bearing misalignment, static eccentricity in electric machine, disbalance, shafts misalignment etc. • Exploitation defects, for example, cavitation in the pump, caused by improper equipment operating regime. Regime can be changed and thus equipment residual lifetime can be prolonged. • Deterioration defects, for example, cavities on the surfaces of the roller bearings, deterioration of gear tooth etc. These kind of defects cannot be eliminated by adjustment operations (ex. balancing, alignment). In this case main purpose of diagnostics is to keep track on the development of these defects and secure a safe operation of the equipment until it would be possible to do maintenance operations. In this way, purchasing team will have time to acquire needed spare parts and equipment down time will be narrowed down to minimum.

Specification DC-23

Supply kit



Vibration analyzer DC-23 supplied with accelerometers, earphones, tachometer, cables, battery charger and transportation bag. Software DREAM-0 is included.

Additional accessories

Wide range of additional accessories are available:
earphones, current clamp, various sensors (rotation, proximity probes, accelerometers), cables, weights for balancing.



Input

Channels	2 analog channels
Converter types	1 synchronization channel Accelerometer, current clamp, tacho, microphone
Frequency range	0.5 - 51200 Hz
Non-linearity of AFR	+/- 5% (0.5 dB)
Channel interference	-100dB

Vibration parameters

Measured parameters	displacement, velocity, acceleration
Detector	RMS, peak, peak-to-peak, peak-factor
Measurement of vibration	2..1000, 10..1000, 10..2000 Hz
broadbands according to GOST:	2..200, 3..300, 5..500, 10..5000, 500..2500, 625..2500, 1200..2500, 2500-5000, 5000..10000
Additional:	10000..25000, 17000-25000 Hz

Spectral analysis

Border frequency	from 25 to 51200 Hz
Frequency resolution	from 400 to 51200 lines
Dynamic range	≥100 dB
Enveloped spectra	
1/3 octave, Hz:	800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6400, 8000, 10000, 12800, 16000, 20000
1/1 octave, Hz:	50, 100, 200, 400, 800, 1600, 3200, 6400, 8000, 12800, 16000

General info

Protection	IP65 (dust- and moisture-proof)
Operating temperature range	-20 / +50C
Device weight without sensors	1 kg
Dimensions	143 x 194 x 39 mm
Operating time	≥8 hrs.
Charging time	≤4.5 hrs.

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