



Motor Behavior Laboratory

Biodex Multi-Joint Systems



The BIODEX System 2 is an isolated joint isokinetic system which allows one to measure the amount of strength produced at different velocities. The joints covered are the shoulder, elbow, wrist, hip, knee and ankle. Sports and orthopedic medicine, pediatric medicine, neuro-rehabilitation, older adult medicine, industrial medicine, and researchers depend on Biodex to provide consistent, accurate, objective data. Objective data that provides the best outcome for their patients... objective data that supports their research... objective data that separates their facility from the rest. Biodex Objective Data helps you communicate need, progress and outcome clearly and accurately. Easy to read and interpret color graphic reports are produced with normative data. Graphic reports and narrative letters compare patient's status to normative data for all joints. Data legends and on-screen editing helps communicate the information in simple terms for patients, doctors, third party payers and employers. The Biodex System 4 offers a level of performance, accuracy, and safety that remains unmatched. Not surprisingly, Biodex equipment marks the highest correlation coefficients for reliability, accuracy, validity and repeatability - another reason why so many clinicians put their trust in Biodex.

Features:

1. Features six modes of operation
2. Allows for six phases of rehabilitation
3. Advantage Software
4. Touch-screen for quick easy operation
5. Activity-specific Work Simulation Exercises
6. Seat design accommodates athlete to pediatric applications
7. Requires only 64 sq-ft of operating space
8. Excellent after-sale support, installation and continuing education programs

Sport Sciences Research Institute of Iran

Computerized biofeedback and reaction time device



Biofeedback is the widely-used and medically-accepted technique for teaching us to control stress, achieve relaxation, and channel talents and energies toward realizing our full potential. Our home biofeedback machines make you aware of your unconscious “involuntary” physical reactions to stress – “feeding back” subtle changes in stress levels. You’ll be able to hear or see changes in your stress level! The dangers of stress are well-documented. We have learned that stress has a real and significant effect on our health and our performance in life, work and sports. Biofeedback offers a unique, non-invasive window on your body's stress level. It monitors and "feeds-back" how well you are succeeding at reducing your stress levels. Rest your fingers on the monitor's two sensing plates and it emits a tone. Increasing tension is indicated by a rising tone. When you apply stress management techniques the tone goes down. The feedback of your success is instantaneous. This gives you the user instant understanding of what techniques are working and which are not. Biofeedback shows people how to use their mind to take voluntary control over their body. When using a biofeedback machine, your inner body’s signals are fed back to you in a tangible way. You can then make the necessary changes to achieve the results you wish.

Features:

1. Reaction time tests for both audio & visual methods which can be done in two ways: dynamic and non-dynamic
2. Using an accelerometer sensor to detect the direction of motion that can be easily placed on limbs
3. Selectable dynamic visual tests
4. Advanced software capable of designing different tests
5. Eight analog inputs with high accuracy, dependent or independent of the computer
6. The data will be displayed online when connected to the computer
7. Capability of Sensor calibration, specifications and data storage for each individual, as well as comparing the results of every person with his/her previous records and intra group results

Vienna Test System

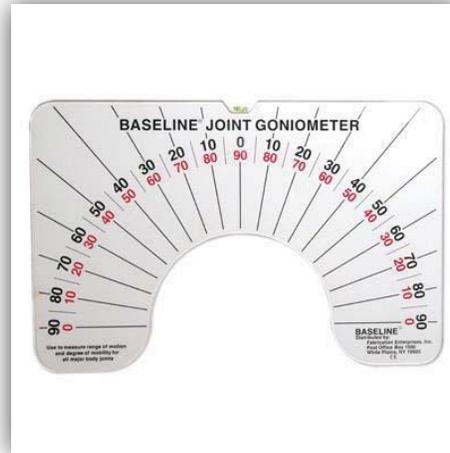


The Vienna Test System HR is designed on a modular basis: a wide range of psychological tests (personality tests, intelligence tests, ability tests, interest tests, etc.) are available, enabling the user to select those that are most appropriate to the requirements profile. Ten test administrations of the 28 psychological tests most frequently used by HR managers (including BFSI Big Five Structure Inventory, INSBAT Intelligence Structure Battery, 2HAND Two-Hand Coordination) are included in the purchase of the Vienna Test System HR, as are five test administrations of each of the five test sets. The tests are easy to prepare, administration is standardized and fair and scoring is objective and efficient. The Vienna Test System TRAFFIC is designed on a modular principle. The user selects the traffic psychology tests appropriate to the legal requirements of a particular situation or to the specific aspects that need to be assessed. The tests can be combined into test batteries. Pre-defined test batteries, known as test sets, can also be used. The Vienna Test System TRAFFIC includes ten test administrations of each of the 21 psychological tests most widely used in traffic psychology and five test administrations of each of the three test sets. These tests sets bring together all the ability factors needed to drive a vehicle (DRIVESTA, DRIVEPLS) and the personality factors relevant to willingness to adapt to traffic conditions (PERSROAD), thus enabling fitness to drive to be easily assessed.

Features:

1. PC or laptop with Pentium CPU (or compatible, e.g. Athlon), at least 1 Ghz
2. At least 500 megabytes (MB) of RAM
3. Display adapter with 24 or 32-bit color depth (16 million colors)
4. 16-bit sound card with speakers and / or headphones
5. DVD drive, hard disk, mouse, keyboard
6. USB ports for license dongle and peripheral hardware (in case all USB ports on the PC are used up a USB hub with external power supply is required)
7. Network adapter to connect the PC to a data network (e.g. for the installation of a Vienna Test System Network)
8. Windows 2000, XP, Vista
9. Internet Explorer 7.0 or higher

Arthrodial Protractor



This device quickly and accurately measures the range of motion for all major joints of the body. It is ideal for difficult-to-measure cervical rotation, lateral flexion of the head, and anterior-posterior cervical flexion. It is durably constructed of one piece of clear acrylic plexi-glass and features a built-in leveling bubble to ensure accuracy. Degree markings are red and black for easy reading. It includes two 180° opposing scales in 5° increments.

Features:

1. Measure range-of-motion for all major articulations, cervical rotation, lateral flexion of the head and anterior-posterior cervical flexion.
2. Bubble lever assures measurement is made on horizontal plane.
3. Measures 18" x 12" (46 x 30cm).
4. Includes two 180°

Balance System SD

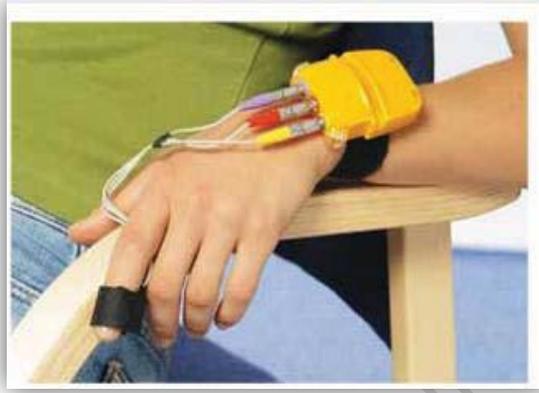
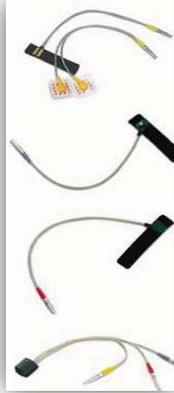


The Biodex Balance System SD has been designed to meet the needs of everyone looking to improve balance, increase agility, develop muscle tone and treat a wide variety of pathologies. Featuring easy-to-follow “touch-screen” operation, the Balance System SD is simple to learn and operate, leading the user step-by-step through testing protocols and training modes in both static and dynamic formats. Extremely versatile, it is the only system that provides a fast, accurate Fall Risk Screening and Conditioning Program for older adults; closed-chain, weight-bearing assessment and training for lower extremity patients; and adds the objective balance assessment component to a concussion management program. The Balance System SD also serves as a valuable training device to enhance kinesthetic abilities that may provide some degree of compensation for impaired proprioceptive reflex mechanisms following injury. Using this unique device, clinicians can assess neuromuscular control by quantifying the ability to maintain dynamic bilateral and unilateral postural stability on a static or unstable surface.

Features:

1. Enhanced Sensory Integration Balance Testing Capabilities
2. Custom Reporting
3. Six Training Modes and Five Testing Protocols
4. Standardized Fall Screening and Athlete Knee Injury Screening Tests
5. Audio Biofeedback
6. Visual Biofeedback
7. Large Display
8. Multipurpose Connectivity
9. Adjustable Support Handles
10. Dimensions: 30" w x 44" depth x 74" h (76 x 112 x 188 cm)
11. Base: 30" w x 44" depth x 8" h (76 x 112 x 20 cm)
12. Platform: 21.5" diameter (55 cm)
13. Viewing Area: 12.1" (30.7 cm) diagonal screen; 9.75" w x 7.25" h (24.8 x 18.4 cm)
14. Angle: Adjustable from vertical back to approximately 45°
15. Display Height: Adjustable from 53" to 68" h above platform (135 x 173 cm); 74" h (188 cm) maximum from floor.
16. Stability Levels: 12 dynamic levels, plus locked for static measurements
17. Platform Tilt: 20° from horizontal in all directions

Biofeedback2000x-pert (BFB)



Biofeedback 2000^{x-pert} is the innovative wireless biofeedback system. It can be used for relaxation, rehabilitation and assessment. Acquire just the modules that you need. All the software and hardware modules can be used in any combination. The system can thus be personalized and is highly flexible. If you extend the scope of your activities, additional modules can be quickly and easily added to the existing system to suit it to the new requirements. Biofeedback 2000^{x-pert} is the all-in-one package for meeting all the requirements that biofeedback trainers and therapists encounter in their everyday work. All relevant physiological parameters can be measured and displayed, including respiration, skin conductance, temperature, heart rate variability, pulse and motility.

Features:

1. User-friendly, easy-to-use software
2. Modular design of software and hardware
3. Transfer of readings via wireless technology (Bluetooth®) by means of small, lightweight radio modules worn directly on the body
4. Complete freedom of movement during measurement
5. Highly sensitive sensors with high stability against artifacts

Digital Type Speed Anticipation Reaction Tester



These computerized tests are administered to measure specific abilities related to the nature of job of the Loco Pilots for their screening prior to their deployment on High Speed Trains, such as Reaction Time, Form Perception, Vigilance, Speed anticipation and some selected attributes of personality. Testing process and evaluation of results are automatic and the results get generated immediately after the testing is over. The apparatus consists of a stimulus screen and control elements with a reaction lamp. It is used to study human movement perception, specially speed and time perception in a wide range of research modes.

Features:

1. Screen dimensions: 500 × 320 × 14/940 cm
2. Displaying Response time with three digits
3. Wall covering width: 290 mm
4. Weight: 21 kg

DIGITAL-TYPE DISCRIMINATIVE REACTION TESTER



This device measures person's reaction time to the sound and color or the combination of both, as a stimulus. After receiving the visual stimulus the reaction time is measured and the results are used to study the effects of drugs, fatigue, lack of sleep, nutrients, etc. on physiological functions. Calculating method of assessment criteria and its interpretation is available in the user manual.

Features:

1. Displaying response time with three digits
2. Stimulus types: ring sound, and red, yellow, blue lights
3. Optical stimulus size: 30 mm
4. Weight: 16/8 kg

Motor performance measurement device



This system includes hardware for the implementation of various movement patterns, and software to collect and analyze data. The aim of this device is to study research variables in the field of motor learning including time of movement, reaction time, the role of feedback, observational learning, etc.

Features:

1. The hardware includes: a microcontroller, six micro-switches and a multifunctional key
2. The software includes: segmental timing, spatial error, temporal error, reaction time, movement time, and response time in movement patterns performed by the subject as well as providing him/her with feedback
3. The software is capable of displaying a series of average data on a bar chart or the researcher can transfer all the data to backup software named Excel for more advanced statistical work

Table tennis ball throwing machine



This device is very fun and easy-to-use. This model has analog controls to adjust ball speed and frequency. Available spins: topspin, backspin, left sidespin, right sidespin, combination spin. Available shot selection: push, chop, serve, counter, lob, fast loop. Head angle adjustments: from low (serves) to high (lobs). Position the robot anywhere on top of the table to get a variety of angles and trajectories.

Features:

1. Ball tank with capacity of accommodating 150 Balls
2. Ability to send 60 to 100 balls per minute
3. Angle changing system