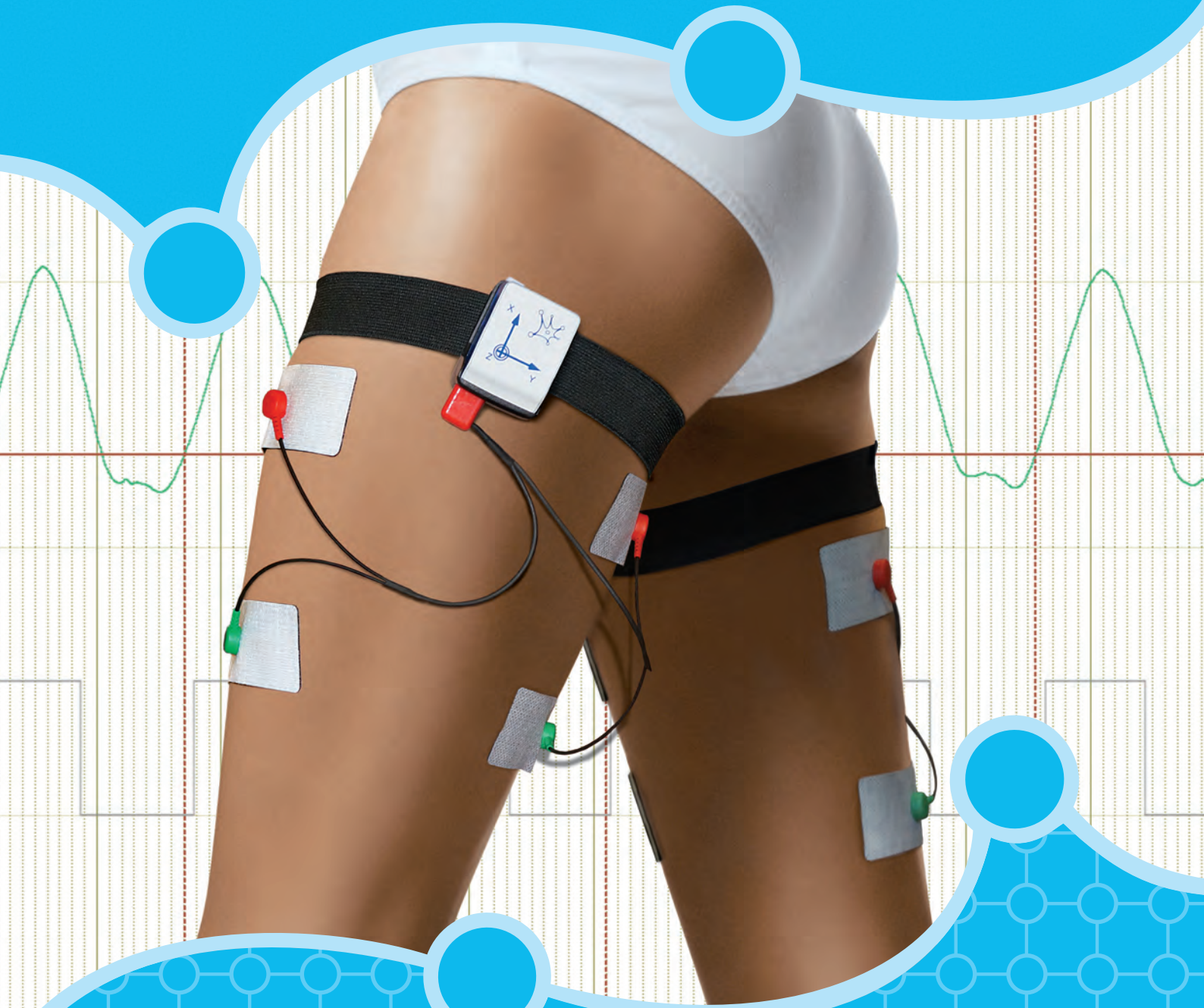


## TRUST-M FES Training Device for Rehab



The system for training movement skills  
through functional electrostimulation (FES)

The FES training device is designed to restore muscle functions and form the correct movement pattern through functional electrostimulation. The foundation of FES is the excitation of muscle by electrical impulses, which are produced strictly in accordance with the phase of the physiological action of this muscle and are precisely synchronized with the movement being performed.

## APPLICATION

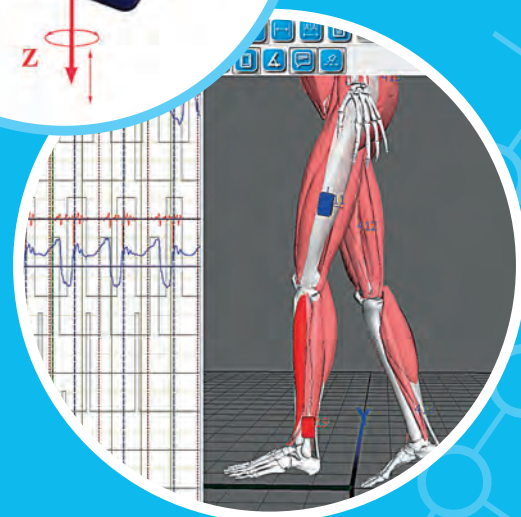
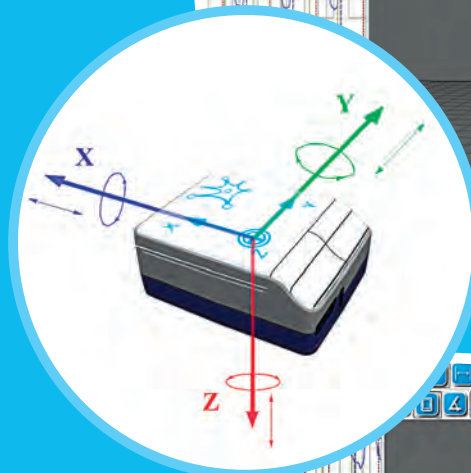
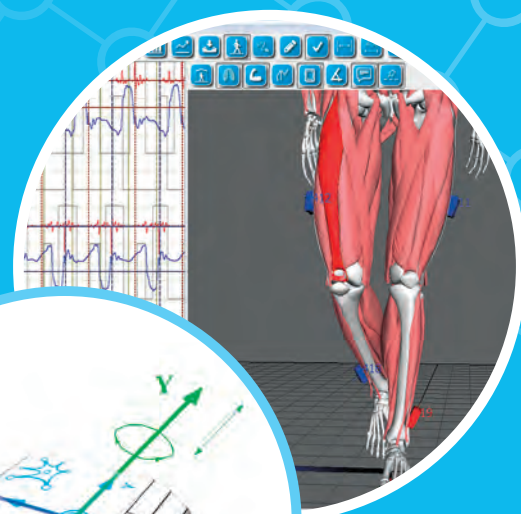
- **Neurology** – peripheral and central paralysis and paresis, hemiparesis of cerebral origin, infantile cerebral palsy, spinal cord injuries at various levels accompanied by flaccid or spastic paralysis.
- **Traumatology and orthopedics** – scoliosis, spinal osteochondrosis, conditions after endoprosthesis, slow healing fractures, and pseudarthrosis.
- **Angiology** – during rehabilitation with obliterating diseases of the vessels of the upper and lower limbs.
- **Sports medicine** – rehabilitation after injuries and surgeries.

## ADVANTAGES

- Stand-alone wireless sensors do not restrict movements.
- Creation of user-defined techniques for any training machine.
- Synchronization of the stimulation phases with cyclic movements, including the cycle of steps, rotational movements and accelerations.
- EMG to control the procedure and adjust the stimulation phases.
- Adaptive algorithms for adjustment of movement cycles.

## TECHNICAL FEATURES

- The complex includes Trust-M multi-functional biomechanical sensors with the electric muscle stimulation function, training machines, BFB virtual reality system, and Trust-M Movement Correction software package. The integrated diagnostic biomechanical system allows you to accurately adjust the phases of muscle stimulation to the cycle of movements and provides synchronization of the speed of the training machine with the cycle of patient movements.
- Ergonomic and compact design of the Trust-M sensors provides comfortable use during trainings. Virtual BFB environment simulates a walk along the road (bicycle or walking), with the ability to display and control locomotions. The software provides adaptive control and synchronization of the stimulation phases with motor action. The integrated Biomechanics diagnostic function allows you to conduct diagnostic tests and track the dynamics of rehabilitation.



## MAIN TECHNICAL CHARACTERISTICS

The Trust-M biomechanical stand-alone sensors – FES	up to 8
Number of synchronously operating FES channels	up to 16
Number of synchronously recording EMG channels	up to 16
Synchronization of the stimulation phases	with the cycle of steps, joint angle, angular rate, acceleration
Stimulation mode of the FES channel	monopolar, bipolar
Amplitude of stimulating pulses of the FES channel current	5-100 mA
Range of frequency setting of pulse current sequence during FES channel stimulation	20–100 $\mu$ s
EMG sampling frequency	Minimum 2000 Hz
EMG input noises	no worse than 2 $\mu$ V

