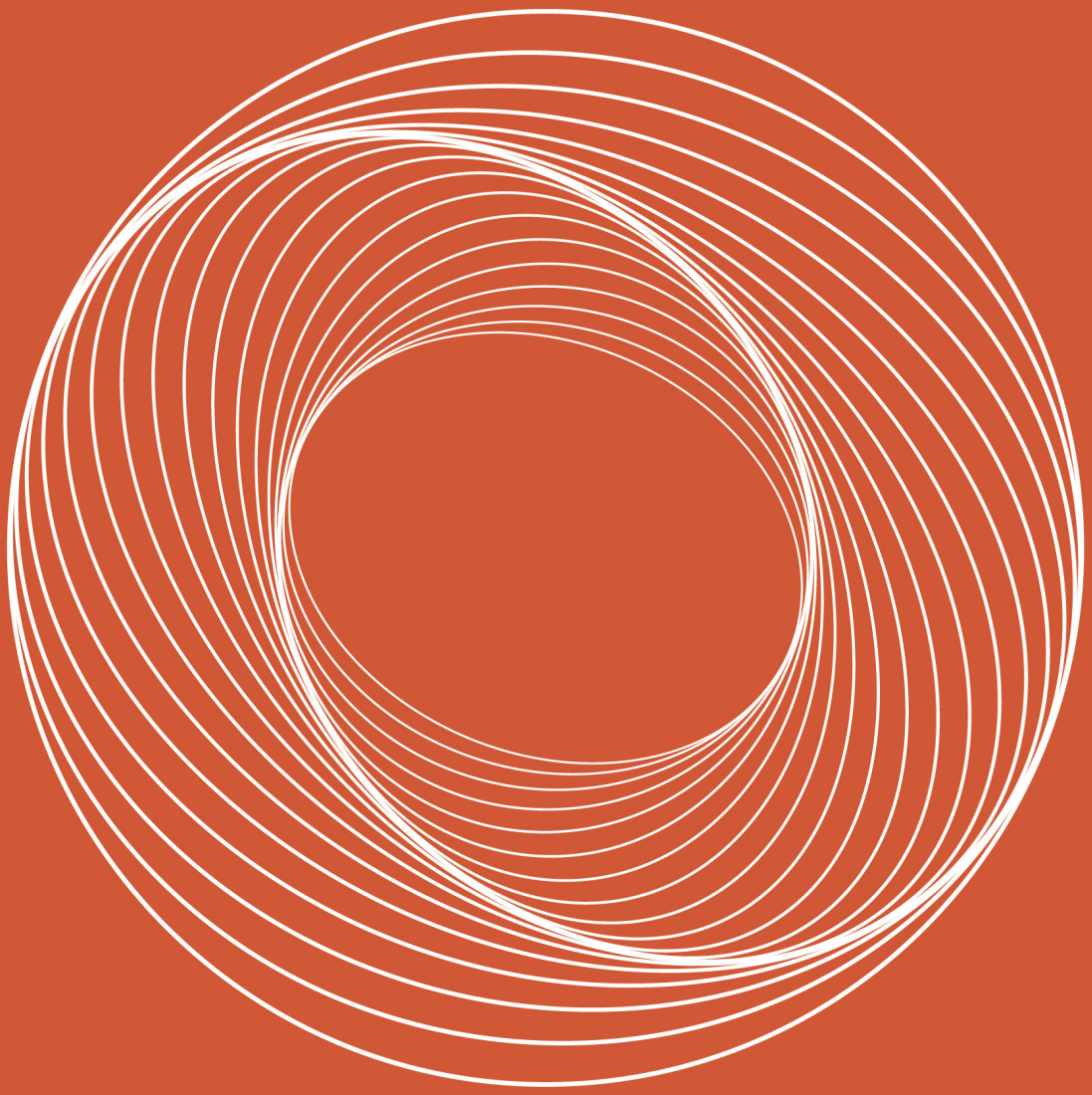

TUR

isoforce

Multiaxial progression

Test and Target

Neuromuscular testing with isoforce generates comprehensive reports that are easy to read and interpret. With a wide variety of available test modes, many parameters such as power, endurance, work, or the level of spasticity can be evaluated. Isoforce helps to set specific and realistic rehabilitation or training goals and records progress effectively.

Treat

Restore range of motion, coordination, flexibility, strength, and endurance. The different exercise modes make the system suitable for every stage of the rehabilitation cycle. No matter what type of muscle contraction (concentric/eccentric) or exercise mode (isometric, isotonic, isokinetic, or CPM) you need, isoforce offers the possibility to implement them all.

Evaluate and Prevent

Progress can be effectively monitored during training or rehabilitation programs. Retesting during the sports season provides valuable training insights and helps reduce the risk of injuries.

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Multi joint rehabilitation system

Different resistance modes

More than 20 joint movement patterns

OPERATION MODES

Concentric isokinetic

Concentric isokinetic is the mode used in traditional isokinetic testing. This test is the most reliable and precise method for quantifying strength. Research has demonstrated a strong correlation between isokinetic concentric testing and athletic performance.
Concentric isokinetic is also a useful tool for rehabilitation. The resistance adapts to muscle weakness or muscle pain, making this mode safe for training.

Eccentric isokinetic

Eccentric isokinetic can bring functional benefits superior to those of the concentric isokinetic. Eccentric contractions are the strongest contractions the human body can perform.
These actions produce greater loading of the elastic musculoskeletal components and are utilized in many dynamic movements.

Continous passive motion

CPM is widely used in the first stages of rehabilitation for a wide variety of pathologies. It helps maintain flexibility, increase ROM, reduce stiffness and consequent pain, and maintain muscle tone. Apart from the traditional therapeutic applications, CPM can be used for evaluating the spasticity of neurological patients.

Isometric

Isometric contractions are active contractions used both for training and testing to minimize atrophy and assess the status of a muscle or a muscle group. They train the muscle without straining the joint. Isometric testing offers information about neuromuscular activation, as well as the status of the involved muscle.

Isotonic

Isotonic muscle testing completes isokinetic testing by providing valuable information on functional muscle characteristics, such as fatigue and power.
Comparison of muscle performance under different loads is possible through the bilateral comparative report. The system allows for setting different loads for eccentric and concentric contractions, providing a pathway for plyometric and eccentric strength development.

Features

Reliable

Self sensor calibration during power-on, real time online position, sensor and status monitoring.

Stabilization

Flexible Velcro bands: Inexpensive to replace, can be combined for all sizes. Extra anchoring points.

Technically robust

Maintenance-free locking mechanisms.

Dynamometer Motor Protection (linear design, shaft coupling).

Interchangeable electronic parts.

Position and Alignment

Stepless setting of dynamometer rotation and height, seat rotation, horizontal position, bottom seat settings, laser pointer for quick alignment.

isoforce

Tailored to your needs

Selection of frequency among 400, 1000, and 2000Hz of real samples.

Customized ranges of speeds, max. torque, ROM, and modes (code protected).

Multi-field patient database with filtering.

Easy synchronization with EMGs without any need of expensive toolkits.

Safe

Automatic release of the dynamometer in case of loss of power.

Three levels of ROM limitations, system imposed depending on the performed pattern, software-set by the user, mechanical.

Torque limits on con, ecc, and cpm leading to doubling the speed, instantly stop the motion, and return to initial position respectively. No need to restart the system after.

Inconvenience button for patient or operator to immediately power-off system.

Patterns

Plantar
Dorsi flexion prone

Inversion
Eversion

Internal
External rotation
seated

Pantarflexion
Dorsiflexion

Extension
Flexion

Extension
Flexion

Adduction
Abduction

Extension
Flexion seated

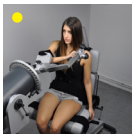
Internal
External rotation

Knee internal
External rotation

Internal
External rotation
seated

Radial
Ulnar deviation

Internal
External rotation
in 90°



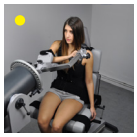
Adduction
Abduction
horizontal

Flexion-adduction
Extension abduction

Extension
Flexion

Pronation
Supination

External
Internal rotation



Extension
Flexion

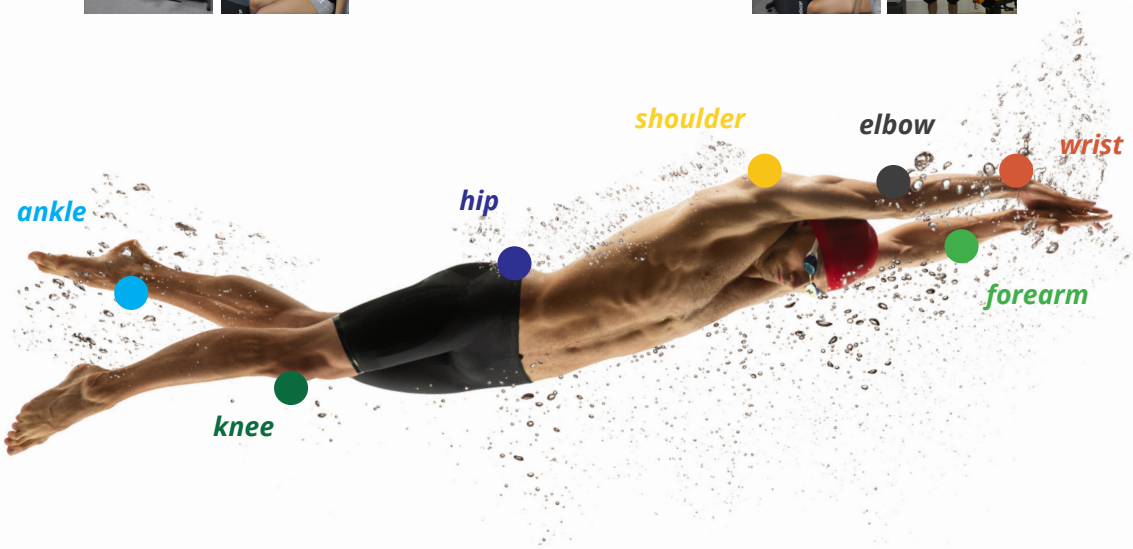
Adduction
Abduction seated

Pronation
Supination

Int. & Ext. rotation
in 90° abduction

Extension
Flexion

Int. & Ext. rotation
standing



Adapters

ADL5

ADK2
optional

ADA1

ADT1

ADS1

ADS2

ADL1

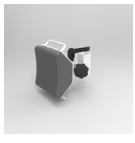
ADL2

ADK1

ADW1

ADS3

ADS4



ADL3

ADL4

The wide variety of optional add-ons

Broadens the therapeutic and rehabilitation possibilities of isoforce

Occupational therapy adapters

Closed kinetic chain adapter for upper and lower limbs

Trunk adapter

Pulley adapter

Pediatric adapters

Pulley adapter

Leg press

Adapter trolley

Trunk adapter

Work simulation / Occupational therapy

WSA27

WSA40

WSA23

WSA24

WSA20

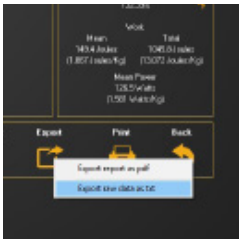
WSA29

WSA22

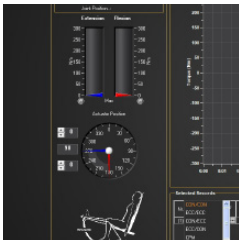
WSA26

WSA28

Advanced software features



Export raw data in .xls, .pdf, txt.
Zoom and cursor tools for curve analysis.



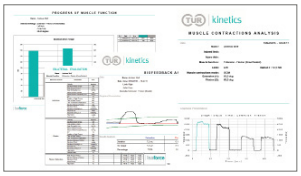
HL7 communication interface.

Change of resistance modes and settings with one click.

Biofeedback in real time with different exercise modes and report of the trainings results.

Torque limits (CON, ECC & CPM), threashold (ECC).
Constraction time (ISOM). Soft stops (CON, ECC, ISOT & CPM), selection of frequency rate.

Intuitive, self-explanatory software.



5 printable report types:
Analytical reports for each side under each resistance, bilateral reports, both numerical and graphical, progress reports to track improvements over time, exercise overview reports for a summary of training activities.

Reviews

The isoforce Isokinetic System has become an indispensable tool in our biomechanics lab. Its ergonomic design and great usability have greatly expedited our research on muscle performance and movement analysis. With its intuitive interface and robust capabilities, the Isoforce enables our team to gather comprehensive data with ease, giving us the possibility to make meaningful contributions to the field of biomechanics and clinical practice.

Department of Sports Health Sciences
Associate Professor

Implementing isoforce isokinetic technology in our clinic has revolutionized our approach to rehabilitation. Its precise and adjustable resistance levels allow for tailored treatment plans for each patient, promoting faster recovery and optimal outcomes.
We've witnessed remarkable improvements in strength, range of motion, and overall patient satisfaction since integrating isoforce into our practice.

Konstantinos Georgilakis
CEO - Body Health Center Berlin

We have been using the isoforce isokinetic system in our Applied Human Movement Sciences working group since 2013 for clinical and scientific research purposes. Among other achievements, our working group recently published a scientific paper titled "Reliability of Muscle Strength and Hamstrings to Quadriceps Strength Imbalance Ratios During Concentric, Isometric, and Eccentric Maximal Voluntary Contractions Using the Isoforce Dynamometer" in the prestigious Journal of Sport Medicine. In addition, we successfully use the system for clinical applications in the context of rehabilitation. Operation of the Isoforce system is easy to learn and clearly structured.

-Prof. Dr. med. Dipl.-Ing. Rainer Bader Leiter Forschungslabor
Forschungslabor für Biomechanik & Implantattechnologie

Technical Specifications

Resistance modes	isokinetic: concentric / concentric eccentric / eccentric combination of eccentric & concentric continuous passive motion (cpm) cpm / concentric, cpm / eccentric isometric isotonic biofeedback in real time

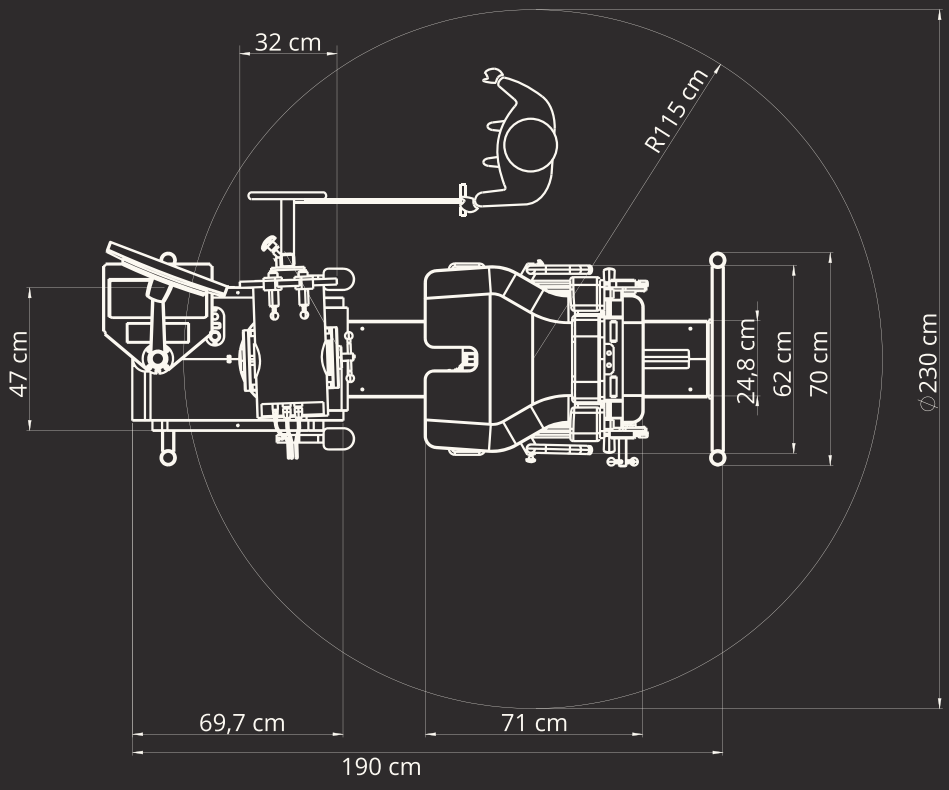
Technical Specifications	
ROM:	up to 360°
Max. peak torque:	700 Nm
Angular velocity:	0,25°/s - 540°/s
Dynamometer type:	servo motor

Functional Features	
Dynamometer:	electrical lifting, tilting, rotation
Chair:	electrical movements for horizontal, translation, bottom seat for / afth, back seat inclination, bottom seat tilt, rotation.

Computer	
Operation System:	windows 11 or later
CPU:	Intel
Monitor:	LCD19" (touch screen optional)
UPS:	optional
Dimensions:	2000 / 700 / 1700mm (l / b / h)
Dimensions (seat horizontal)	2600 / 700 / 800mm (l / b / h)

Optional Accessories

Trunk Flexion / Extension
Lower / Upper limb closed kinetic chain
Work Simulation
Pulley adapter
Anti Shear



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