

Isokinetics



Prima line



easytech



Prima line

Intervention area

Knee, shoulder, ankle

Mode

**Isokinetic, isometric, isotonic
and hydrodynamic**

Effect

**Assessment, rehabilitation
and training of the muscle
strenght**

The Prima family equipment are designed to exercise large joints – knee, shoulder and ankle – in isokinetic mode, that is by means of a special “brake” that applies a movement at constant angular speed to the joint. It is known that the isokinetic mode converts into a resistance that can be adjusted to the patient and enables the latter to express the maximum strength throughout the whole movement, regardless of the advantage/disadvantage of the biomechanical lever.

Applying a constant speed enables to measure the strength and, in this regard, the isokinetic system parallels a dynamometer, that is a device able to objectively measure strength. Therefore, the Prima equipments are essential to test, rehabilitate and train large joints.

Prima ISO

Isokinetic dynamometer. Concentric and isometric modes

Hydraulic dynamometer brake

Isokinetic, isometric, isotonic and hydrodynamic contraction modes

Concentric isokinetic work – isometric mode

Lever and positioning for shoulder, knee, ankle and CKC

Adjustable angular velocity range
from 40°/sec to 400°/sec

Isometric positioning by 15° intervals
(30° for the shoulder)

Assessment of the torque with a 1.5 nm resolution

Maximum concentric force 600 Nm +/- 5%

Real time measurement of angles and force
with feedback

Data recording and comparative reports

Graphic analysis of the curves

Medical Certification



Prima line assessment and rehabilitation of large joints

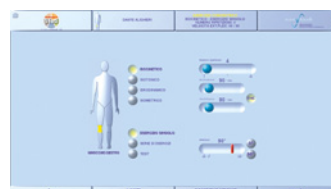
The Prima family equipment is effectively employed in muscle and joint traumatology, arthroscopic and reconstructive surgery and for training healthy patients

Assessment and recovery of the strength and the joint range of motion

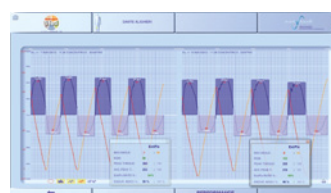
Monitoring and rehabilitation of dynamic muscle performance

Accurate and repeatable identification of a painful or weak joint arch, so as to most efficiently customize the workload

Shorter healing times

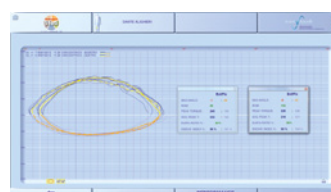


Touch screen control software, assisted settings and guided sequences



Work session set-up

Test result



Analysis and comparison

Prima PLUS

Isokinetic dynamometer. Concentric, eccentric, mixed and isometric modes

Isokinetic dynamometer with active hydraulic motor

Isokinetic, isometric, isotonic and hydrodynamic contraction modes

Concentric, eccentric or mixed isokinetic work – passive and isometric modes

Lever and positioning for shoulder, knee, ankle and CKC

Angular velocity range in concentric mode from 40°/sec to 400°/sec

Angular velocity range in eccentric mode from 20°/sec to 200°/sec

Passive speed from 5° to 20°/sec

Isometric positioning by 15° intervals (30° for the shoulder)

Assessment of the torque with a 1.5 nm resolution

Maximum concentric force 600 Nm +/- 5%

Maximum eccentric force 600 Nm +/- 5%

Real time measurement of angles and force with feedback

Data recording and comparative reports

Graphic analysis of the curves



Prima line



Knee lever



Shoulder lever



Ankle lever



CKC lever



Bipodalic lever for the knee

Technical features

Operative Configurations

Prima ISO
Concentric and isometric modes
Prima PLUS
Concentric, isometric, eccentric, mixed and passive modes
Treatable joints:
Knee: flexion/extension
Ankle: dorsal/plantar flexion
Shoulder: intra/extra rotation (at all degrees of abduction)
Lower limb close chain

Optionals

Double lever for the knee

Classification according to Directive 93/42 CEE

Prima ISO: Medical device class I
Prima PLUS: Medical device class II b

Classification EN 60601-1

Class I applied part B

Electrical features

Power 100-240 V Ac, 50-60 Hz single-phase
Absorbed power max 110 VA (max 550 VA for PLUS version)
Fuses 2xF 2 A (2xF 6,3 A for PLUS version)

Overall dimensions and weight

Isokinetic unit: 75 x 140 x 135h cm, 162 kg
(194 kg for PLUS version)
Accessories rack: 46 x 46 x 42h cm, 38 kg
Minimum operating space: 200 x 270 cm

Recommended minimum PC requirements

Operating system Windows 7
Graphic card 1024x768 – 24 bit
Ram 4 GB
Colour printer
USB port
Available optionals: touch screen monitor

Installation requirements

Room temperature: [+10, +40] °C
Relative humidity (without moisture): [30, 75] %
Atmospheric pressure: [700, 1060] mbar
Maximum patient weight 135 kg

Standards

Prima ISO and Prima PLUS are compliant with Directive 93/42 CEE



Back to motion

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