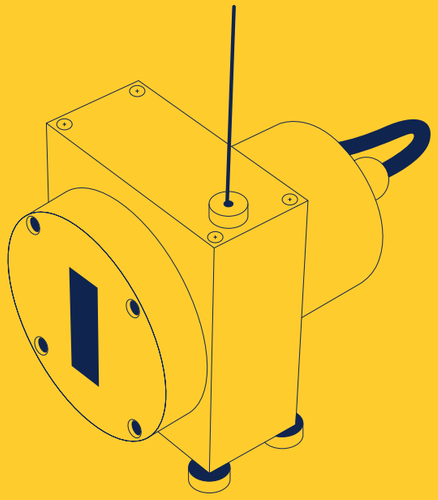
CATALOGUE
2020 - 2021

CHRONOJUMP® BOSCOSYSTEM

01

HARDWARE



02

SOFTWARE

03

NETWORKS

NO MORE BLIND TRAINING

¿WHAT IS CHRONOJUMP BOSCOSYSTEM?

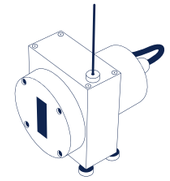
Chronojump-Boscosystem is a non-profit association founded on 25/09/2014. The main objective is to develop scientifically validated tools to obtain, manage and analyze short term sport tests. It differs by adopting a different philosophy of knowledge diffusion promoting free software.

Being a non-profit association, the main objective is not to make money. It offers affordable instruments to measure sports actions in order to reach the maximum number of people.

Courses and trainings are organized, as well as collaborations with universities, schools and research groups. Chronojump links technology and sport offering an applicable and transferable result that promotes scientific knowledge in society in an altruistic way.

01

HARDWARE



ENCODERS

Linear encoder KIT

(Linear encoder, Chronopic, cables and transport bag) Device that measures the linear displacement of the exercise performed, offering data of Power, Speed and Force (all of them in propulsive phase).

- **Force-velocity profiles**
- **Calculation of optimal workload**
- **Progressive load test**
- **Calculation of 1RM**
- **Visual and auditory feedback**
- **Longitudinal evolution of the athlete**
- **Calculation of the loss of speed**
- **Calculations including displaced body weight based on exercise**

Sampling frequency: **1000 Hz**
Resolution: **1 mm**
Weight: **1,2 kg**

Rotary axis encoder KIT

(Rotary encoder, Chronopic and cables) Device that measures the angle of rotation of an axis, giving data of Power, Speed and Force. It is used to sensor inertials.

- **Calculation of the eccentric overload**
- **Force-velocity profiles**
- **Visual and auditory feedback**
- **Longitudinal evolution of the athlete**
- **Calculation of the loss of speed**
- **Calculations including displaced body weight based on exercise**

Sampling frequency: **1000 Hz**
Resolution: **1,8 °**
Weight: **0,4 kg**

Rotary friction encoder KIT

(Friction encoder, Chronopic and cables)
A device that measures the displacement of a moving surface, giving data on Power, Speed and Force..

- **Calculation of the eccentric overload**
- **Force-velocity profiles**
- **Visual and auditory feedback**
- **Longitudinal evolution of the athlete**
- **Calculation of the loss of speed**
- **Calculations including displaced body weight based on exercise**

Sampling frequency: **1000 Hz**
Resolution: **1 mm**
Weight: **1,3 kg**

FORCE SENSOR

Force Sensor KIT
(Force sensor, electronics, cables and carrying bag) Device that measures the strength of traction and compression.

· Instantaneous, average and maximum force, RFD, Force variability, Impulse.
· Manual and automatic analysis of force curves.
· Position, Acceleration, Power and Speed with rubbers.
· Automatic repetition detection.
· Calculations including displaced body weight in function of the exercise.

Maximum resistance: **500 kg**
Sampling frequency: **80 Hz**
ADC resolution: **24 bits,** equivalent to an ADC sensitivity of 0.03 grams

Adapter ABD/ADD

Leg adapter, which makes it easier to perform the Abduction-Adduction test.

It can also be used for the arms.

Resistance rubber KIT

Rubbers of different resistances and sizes, as well as straps and grips.

*Chronojump bag included!

RACING MATERIAL

Career KIT Pro
(photocells, batteries, Chronopic, pro tripods and cables)

Photoelectric sensor device (photocells) arranged at a known distance, which detects the presence of the subject or object. Single and interval strokes can be measured. Built-in batteries and high quality tripods.

· Time and average speed of each run.
· Possibility to start the test with a jump platform or a button.

Response time: **5 ms**
AC-DC input voltage: **12 hasta 250 V**
Maximum distance between emitter and reflector: **10 m**

Basic Racing KIT
(photocells, Chronopic, tripods and cables)

Same device as the Pro Racing Kit, with the difference that it needs a power supply for its operation.

The tripods are of lower quality than those of the pro kit.

Push button

Manual button that allows start.

JUMPS EQUIPMENT

Contact platform KIT

(Contact platform, Chronopic and cables)
Device that measures the time of flight and contact over the platform. Through this we can calculate the height of flight and the initial speed. Both single and multiple jumps can be made.

- **Bosco test battery**
- **Muscle profile**
- **Optimal height for the best Drop Jump**
- **Longitudinal evolution of the jump**
- **Squat Jump force/speed profile**

A1

A2

A3

A4

SIZES:	
	A1: 590X841 mm
	A2: 420X590 mm (RECOMMENDED)
	A3: 297X420 mm
	A4: 210X297 mm

OTHER

Hand push button

Manual button to establish time synchronization with the Chronojump software. Compatible with encoders, sensor strength and races equipment.

Cables and adapters

All types of wiring necessary to connect the various devices with the software.

COURSES AND CONSULTANCY

Courses and consultancy on the use, development and application of all Chronojump devices.
For more information contact
learning@chronojump.org

02

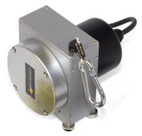
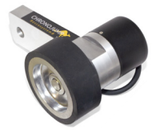
SOFTWARE

Chronojump is a free software dedicated to the management of several human movement measurement devices. Chronojump is compatible with Windows, Mac and Linux systems. It is regularly updated and the updates are and will always be free.

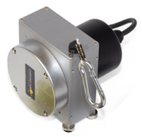
The most common devices that Chronojump connects to are encoders, force sensors, photocells and contact platforms. Among the variables of interest, power, speed, force and displacement, although these depend on the device and the test executed.


Chronojump
CHRONOJUMP
Boscosystem®
2.0
Jumps
Races
Force sensor
Encoder
CHRONO JUMP
Jumps profile
Dj optimal fall
FV Profile
Jumps / time
Advanced
Jump type
Dja
Height (cm)
50,25
49,5
48,75
20
30
40
50
Fall (cm)
John Smith
Optimal fall height
Jumptype: DJa
03/12/2014
Fall: 34,76 cm
Jump height: 50,74 cm
Force (kN)
Displ (m)
100
80
60
40
0s
1s
2s
3s
4s
5s
6s
Chronojump - Tutorial - Jumps simple
Capture
Analyze
John Smith
SJ
Automatic mode
Start
Device
50 ms
Last
10
SJ
All tests
cm
Falling height
Jump height
50,5
41,1
Group
Average
Best
Person
Average
Best
Best
(all sessions)
31,65
44,24
46,56
20
48,66
30
50,74
40
50,49
50
48,51
3,11
SJ John Smith
CMJ John Smith
ABK John Smith
DJa John Smith
DJa John Smith
DJa John Smith
DJa John Smith
SJ1 John Smith
Show graph
Show table
FIELD ASSESSMENT WITH LABORATORY MEASUREMENT QUALITY
#NOMOREBLINDTRAINING

VARIABLES & SENSORS

	ENCODERS				FORCE SENSOR	CONTACT PLATFORM	PHOTOCELLS
	LINEAL 	ROTARY AXIS 	ROTARY FRICTION 	RACE ANALYZER 			
Average force	X	X	X	X	X		
Average propulsive force	X	X	X				
Instantaneous force	X	X	X	X	X		(on sprint)
Max. force	X	X	X	X	X		(on sprint)
Time to max. force	X	X	X		X		
Average RFD	X	X	X		X		
Instantaneous RFD					X		
Max. RFD					X		
K				X	X		
Force variability					X		
Tau				X	X		
Mean speed	X	X	X	X	(on elastic)		X
Propulsive mean speed	X	X	X				
Instantaneous speed	X	X	X	X	(on elastic)	(En el despegue)	(on sprint)
Max. speed	X	X	X	X	(on elastic)	(En el despegue)	(on sprint)
Time to max spped	X	X	X				
Mean power	X	X	X	X	(on elastic)	X	
Propulsive mean power	X	X	X				
Instantaneous power	X	X	X	X	(on elastic)		
Max. power	X	X	X	X	(on elastic)	X	(on sprint)
Time to max. power	X	X	X	X			
RPD	X	X	X				
Stiffness						X	
Jump height	X					X	
Flight time						X	
Contact time						X	
Time	X	X	X	X	X	X	X
Distance	X	X	X	X	(on elastic)		X
Impulse	X	X	X	X	X		
Work	X	X	X				

FEATURES & SENSORS

	ENCODERS				FORCE SENSOR	CONTACT PLATFORM	PHOTOCELLS
	LINEAL 	ROTARY AXIS 	ROTARY FRICTION 				
Concentric ex.	X	X	X		X		
Excentric ex.	X	X	X		X		
Isometric ex.					X		
Laterality analisis	X	X	X		X	X	
Automatic repetitions detection	X	X	X		X		
Graphics and statistics	X	X	X	X	X	X	X
Sync with external signals	X	X	X	X	X		
Complementary video recording	X	X	X	X	X	X	X
Feedback during exercise	X	X	X		X	X	
Creating any exercise	X	X	X	X	X	X	X
Data export	X	X	X	X	X	X	X
Chronojump Networks compatible	X	X	X		X		X

03

NETWORKS

Chronojump Networks is an integrated solution to evaluate and test the athlete during training in different stations or work places.

It makes it easy to track the evolution of the athletes by their performance, register the data and motivate them.

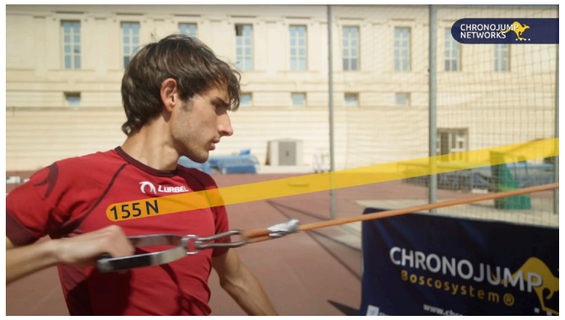
It has a central platform that collects and automatically saves all data, which can be analyzed in real time or in retrospect.

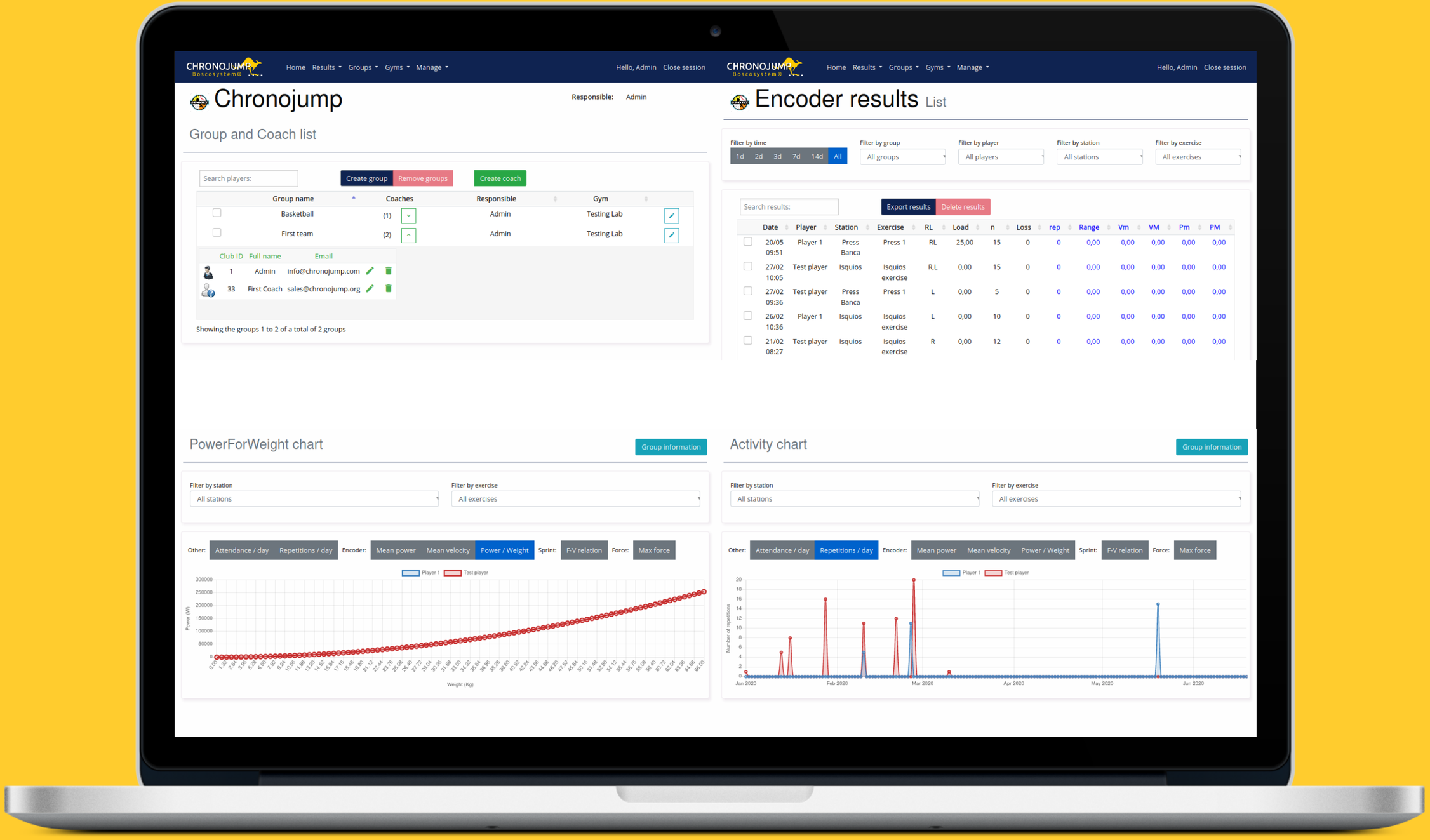
The athlete is automatically recognized when approaching the bracelet to the workstation. Compatible with encoders, force sensor and racing kits.

· Possibility to add and reconfigure athletes
· Advanced search results
· Configuration and automatic assignment of tasks
· Follow-up and technical support included

It's being used in premier league clubs Spanish football in the last 4 seasons.

Vídeo: **https://chronojump.org/chronojump_networks/**




CHRONOJUMP Boscosystem®
Home Results Groups Gyms Manage
Hello, Admin Close session
Chronojump
Responsible: Admin
Group and Coach list
Search players:
Create group
Remove groups
Create coach
Group name
Coaches
Responsible
Gym
Basketball (1) Admin Testing Lab
First team (2) Admin Testing Lab
Club ID Full name Email
1 Admin info@chronojump.com
33 First Coach sales@chronojump.org
Showing the groups 1 to 2 of a total of 2 groups
Encoder results List
Filter by time
1d 2d 3d 7d 14d All
Filter by group
All groups
Filter by player
All players
Filter by station
All stations
Filter by exercise
All exercises
Search results:
Export results
Delete results
Date Player Station Exercise RL Load n Loss rep Range Vm VM Pm PM
20/05 09:51 Player 1 Press Banca Press 1 RL 25,00 15 0 0 0,00 0,00 0,00 0,00 0,00
27/02 10:05 Test player Isquios Isquios exercise R,L 0,00 15 0 0 0,00 0,00 0,00 0,00 0,00
27/02 09:36 Test player Press Banca Press 1 L 0,00 5 0 0 0,00 0,00 0,00 0,00 0,00
26/02 10:36 Player 1 Isquios Isquios exercise L 0,00 10 0 0 0,00 0,00 0,00 0,00 0,00
21/02 08:27 Test player Isquios Isquios exercise R 0,00 12 0 0 0,00 0,00 0,00 0,00 0,00
PowerForWeight chart
Group information
Filter by station
All stations
Filter by exercise
All exercises
Other: Attendance / day Repetitions / day
Encoder: Mean power Mean velocity Power / Weight
Sprint: F-V relation
Force: Max force
Player 1
Test player
Power (W)
Weight (Kg)
Activity chart
Group information
Filter by station
All stations
Filter by exercise
All exercises
Other: Attendance / day Repetitions / day
Encoder: Mean power Mean velocity Power / Weight
Sprint: F-V relation
Force: Max force
Player 1
Test player
Number of repetitions
Jan 2020
Feb 2020
Mar 2020
Apr 2020
May 2020
Jun 2020

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