

CATALOGUE
2024

CHRONOJUMP[®] BOSCO SYSTEM

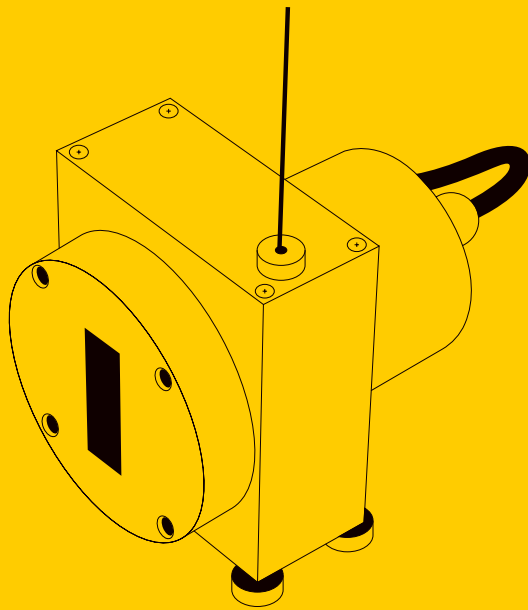


CHRONOJUMP

Boscosystem

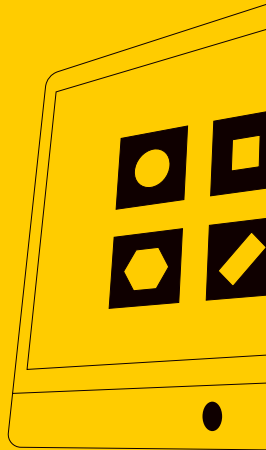
01

HARDWARE



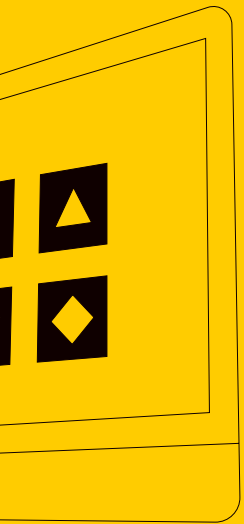
02

SOFTWARE



2

WARE



03

NETWORKS



& CLOUD

NO ONE

BLIND

TRAVEL

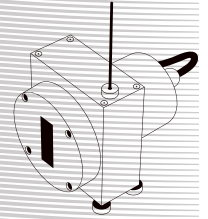
ORE

ING

¿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



ENCODERS

Linear Encoder KIT

[[Linear encoder, Chronopic-encoder, cables and transport bag]



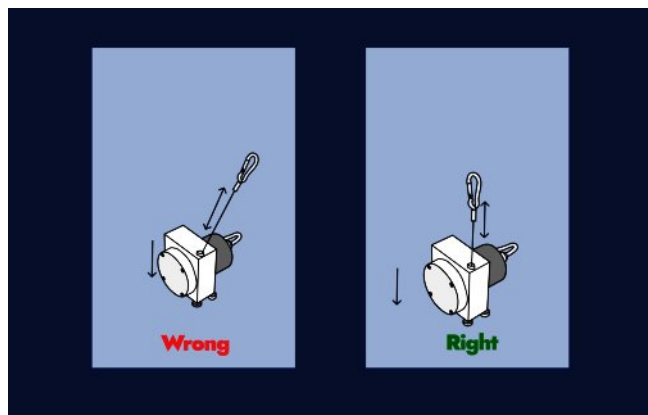
Device that measures the linear displacement of the exercise performed, offering data of Power, Speed and Force (all of them in propulsive phase).

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

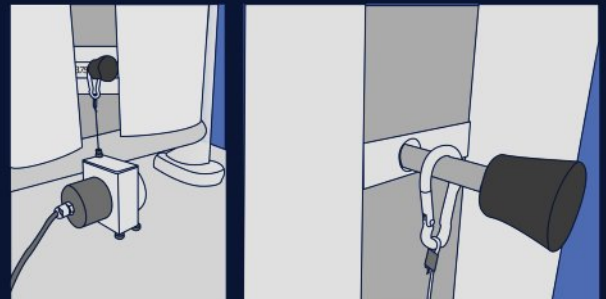
Sampling frequency: **1000 Hz**

Resolution: **1 mm**

Weight: **1,2 kg**



Connection to smith machine



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 rotary inertial machines.

- **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 mm**

Weight: **2,5 kg**

FORCE RELATED PRODUCTS

Force Sensor KIT

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

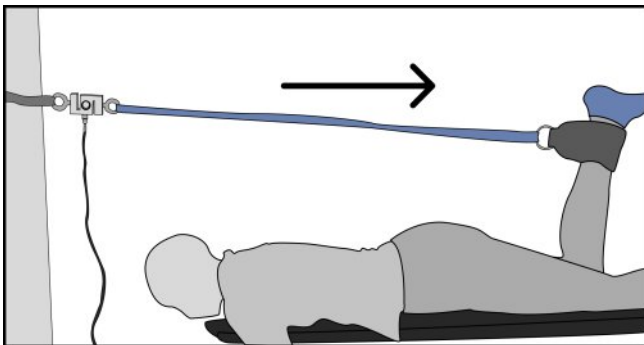
Maximum resistance: **500 kg**

Sampling frequency: **160 Hz**

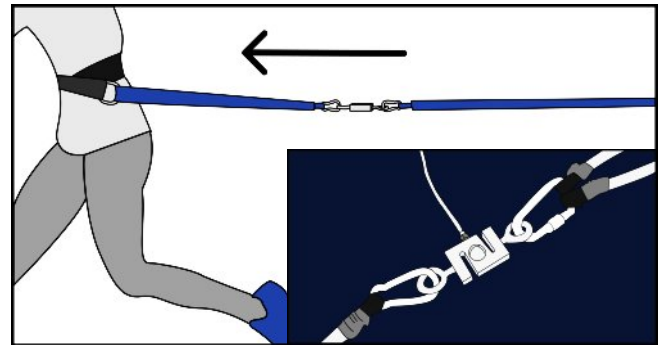
ADC resolution: **24 bits**, equivalent to an ADC sensitivity of **0.03 grams**.



[Force sensor, electronics, cables and carrying bag]



Quadriceps strength [Martina Weil]



KIT ACCESORIES



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!



KIT ForHealth

This device allows the evaluator to measure quickly most of the muscular groups.

- **Instantaneous, average and maximum force, RFD, Force variability, Impulse**
- **Manual and automatic analysis of force curves**
- **Evolution of the evaluated person**

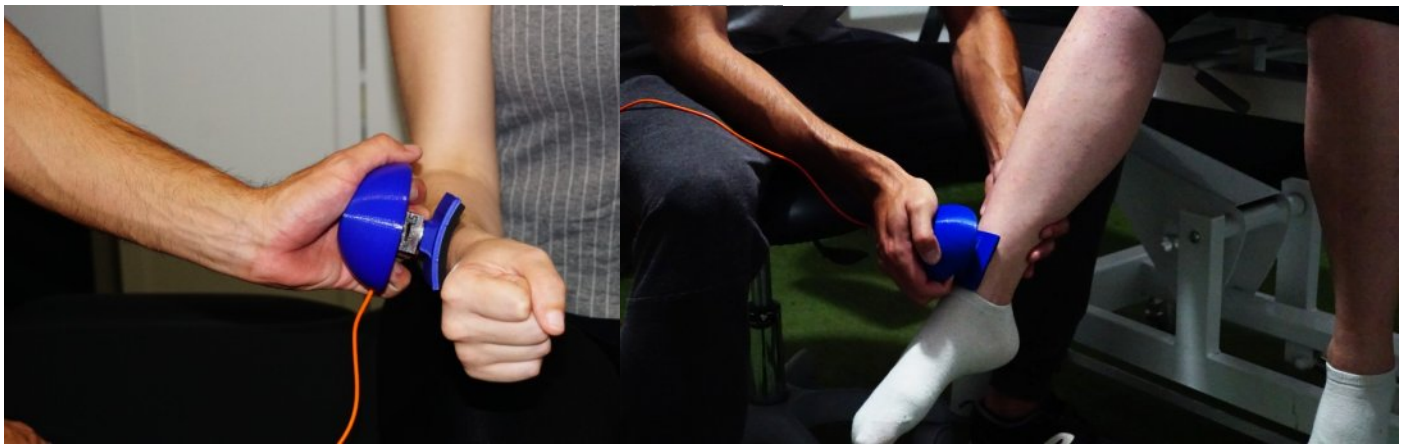
Maximum resistance: **100 kg**

Sampling frequency: **160 Hz**

ADC resolution: **24 bits**, equivalent to an ADC sensitivity of **0.03 grams**.



[Force sensor, electronic and cables]



Algometer KIT

kit to measure the pressure pain threshold.

- **Instantaneous, average and maximum force, RFD, Force variability, Impulse**
- **Manual and automatic analysis of force curves**
- **Evolution of the person evaluated**

Maximum resistance: **100 kg**

Sampling frequency: **160 Hz**

ADC resolution: **24 bits**, equivalent to an ADC sensitivity of **0.03 grams**.



[Force sensor, electronic, cables and hand push button]

RACING MATERIAL

Race Analyzer

Device that allows you to analyze and graph races (Encoder based).

Ideal device for high precision analysis of the sprint in (race, swimming, rowing, and other sports)

- Measure and graph instantaneous speed, acceleration, force and power (raw)
- Partial times and average speed every 5 seconds
- Evolution of the evaluated person

Maximum distance: **70 m**

Distance accuracy: **3cm**

Time accuracy: **4 microseconds**



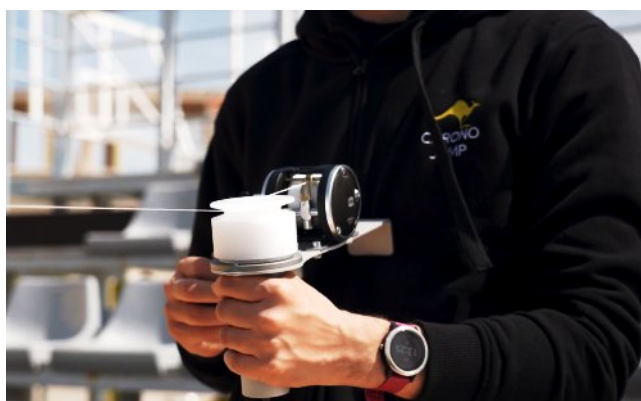
(Encoder, electronic and cables)



Encoder-based



Linear Races



Easy capture and analysis



Easy assembly

WICHRO: WIRELESS RACE KIT



[Photocells, batteries, Chronopic, 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.

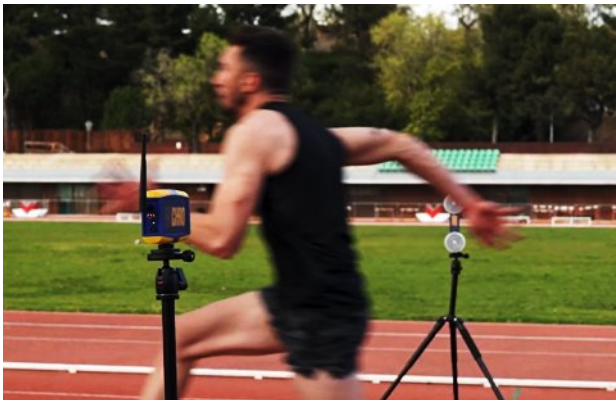
- Time and average speed of each run
- Possibility to start the test with a jump platform or a button
- Double beam to avoid double contacts
- Coding channels to avoid interference with other WICHRO equipment or other wireless instruments

Response time: **5 ms**

AC-DC input voltage: **12 to 250 V**

Maximum distance between emitter and reflecto: **10m [3-4m recommended]**

Internal battery life: **5h**



Linear Races



Agility test

Push button

This device allows to start the chronometer in a sprint.

Starting with one hand on the switch, releasing the switch starts the time measurement in a sprint.



JUMPS EQUIPMENT

Contact platform KIT



[Contact platform, Chronopic-jumps 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 performed.

- **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.

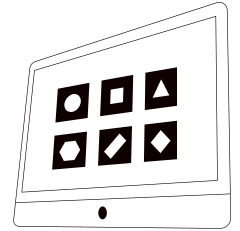
For more information contact

sales@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 - Tutorial

CHRONOJUMP
Boscosystem®

DB

Modes

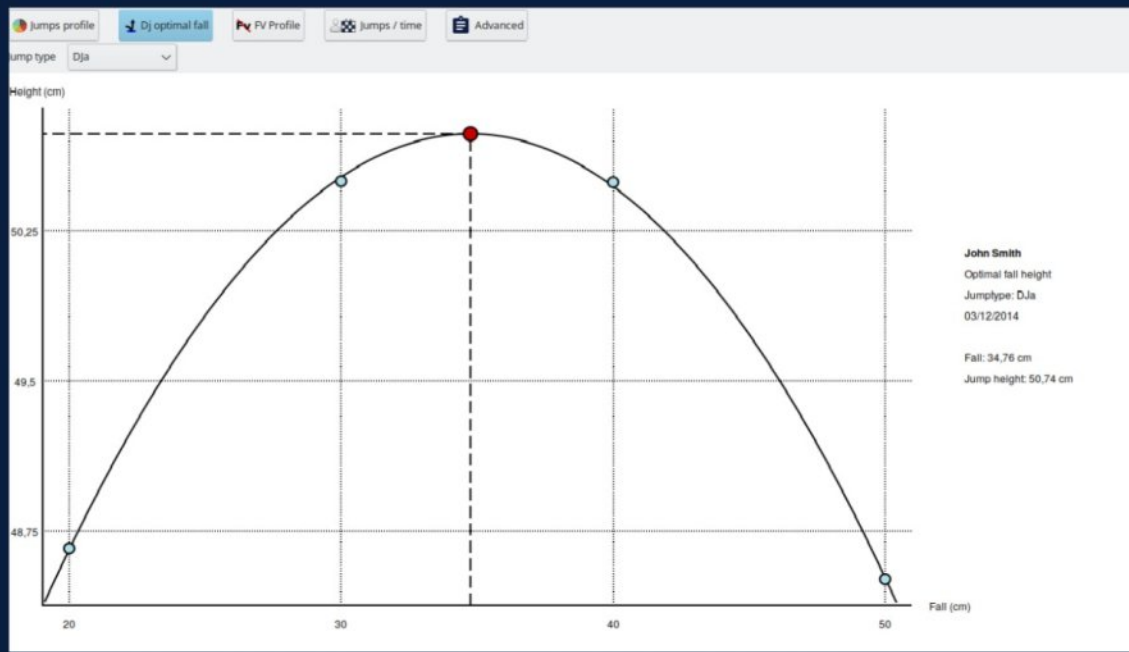
Jumps Races Isometric Elastic Weights Inertial

Jumps
Measured by a contact platform

Simple Tests have 1 flight phase

Multiple Tests have >1 flight phase

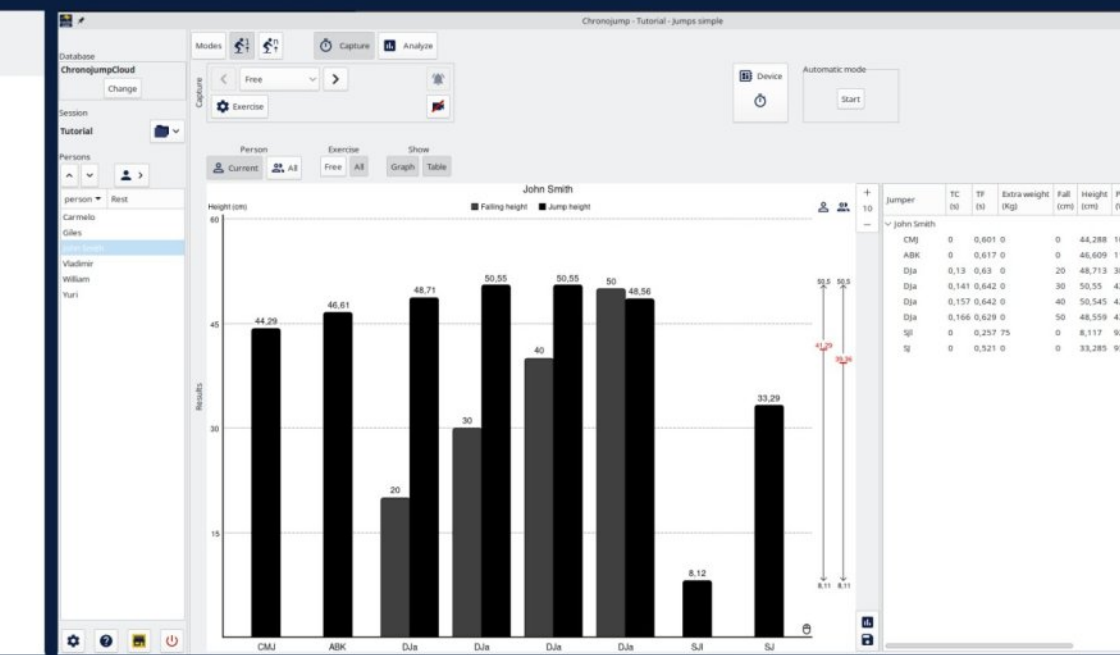
FIELD ASSESSMENT WITH LABORATORY



#NOMO



MEASUREMENT QUALITY



REBLIND TRAINING

SENSORS & VARIABLES

	Encoders		Material For Force	
	Lineal	Rotary	Force Sensor	For Health
				
Average force		✓	✓	✓
Average propulsive force		✓		
Instantaneous force		✓	✓	✓
Max.force		✓	✓	✓
Time to max.force		✓	✓	
Average RFD		✓		
Instantaneous RFD			✓	
Max.RFD			✓	
K			✓	
Force Variability			✓	
Tau			✓	
Mean speed		✓	On elastic	
Propulsive mean speed		✓		
Instantaneous speed		✓	On elastic	
Max.speed		✓	On elastic	
Time to max speed		✓		
Mean speed		✓	On elastic	
Propulsive mean power		✓		
Instantaneous power		✓	On elastic	
Max.power		✓	On elastic	
Time to max.power		✓		
RPD		✓		
Stiffness				
Jump height		Rotary encoder		
Flight time				
Contact time				
Time		✓	✓	✓
Distance		✓	On elastic	
Impulse		✓	✓	✓
Work		✓		

SENSORS & FEATURES

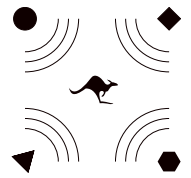
	Encoders		Material For Force	
	Lineal	Rotary	Force Sensor	For Health
Concentric exercise	✓		✓	
Excentric exercise	✓		✓	
Isometric exercise			✓	
Laterality analysis	✓		✓	✓
Automatic repetitions detection	✓		✓	
Graphics and statistics	✓		✓	✓
Sync with external signals	✓		✓	✓
Complementary video recording	✓		✓	✓
Feedback during exercise	✓		✓	✓
Creating any exercise	✓		✓	✓
Data export	✓		✓	✓
Chronojump Networks compatible	✓		✓	✓
Pain threshold				

CHRONOJUMP®

e	Material For Race		Material For Jumps
	Algometer	WICHRO Race Analyzer	Contact Platform
			
	✓		✓
	✓	✓	✓
	✓		
	✓		✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓		

03

NETWORKS



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

It makes easier 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.

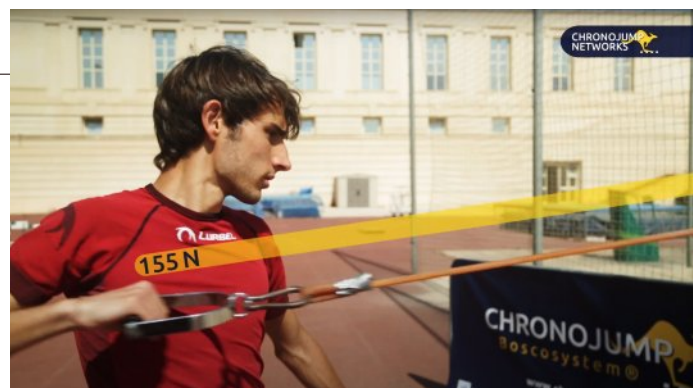
The athlete is automatically recognized when approaching the bracelet to the workstation.

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

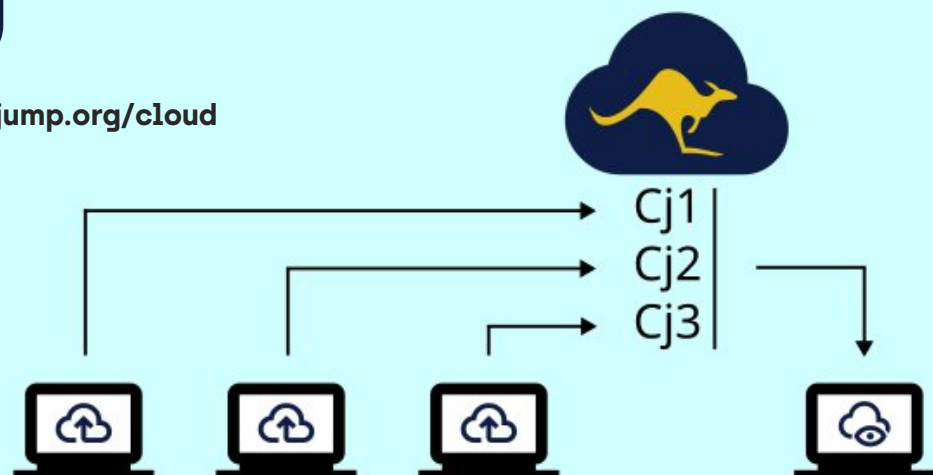
It's being used in spanish premier league clubs and german football.

Vídeo: www.chronojump.org/chronojump_networks/



CLOUD

More info at: www.chronojump.org/cloud







Group and Coach list







Search players:

Create group

Remove groups

Create coach

	Group name	Coaches	Responsible	Gym
<input type="checkbox"/>	Basketball	(1) 	Admin	Testing Lab 
<input type="checkbox"/>	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

PowerForWeight Chart

Group information

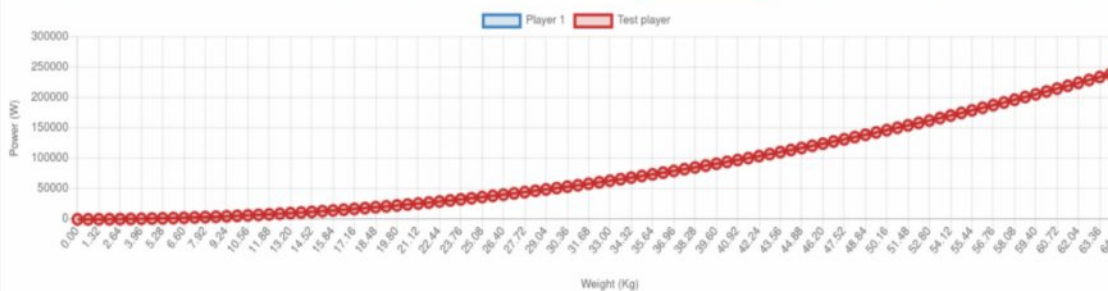
Filter by station

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



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

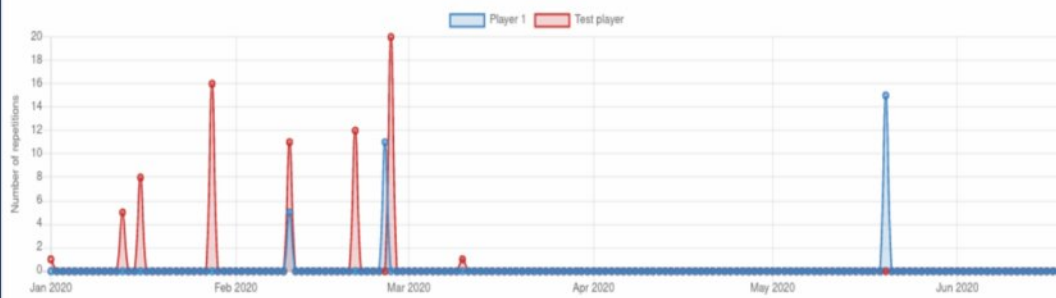
	Date	Player	Station	Exercise	RL	Load	n	Loss	rep	Range	Vm	VM	Pm	PM
<input type="checkbox"/>	20/05 09:51	Player 1	Press Banca	Press 1	RL	25,00	15	0	0	0,00	0,00	0,00	0,00	0,00
<input type="checkbox"/>	27/02 10:05	Test player	Isquios	Isquios exercise	R,L	0,00	15	0	0	0,00	0,00	0,00	0,00	0,00
<input type="checkbox"/>	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
<input type="checkbox"/>	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
<input type="checkbox"/>	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

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



NETWORKS

WWW.CHRONOJUMP.ORG



MAIL: support@chronojump.org
INSTAGRAM: [@chronojump_boscosystem](https://www.instagram.com/chronojump_boscosystem)
TWITTER: [@boscosystem](https://twitter.com/boscosystem)
LINKEDIN: [Chronojump Boscosystem](https://www.linkedin.com/company/chronojump-boscosystem)
YOUTUBE: [@Chronojump](https://www.youtube.com/Chronojump)