

LABA⁷

Precision Testing

for Vehicle Dynamics and Performance

laba7.com

What is LABA7?

We manufacture and distribute quality equipment to test, diagnose, and service shock absorbers. The products are developed with a focus on you - the user.

We designed our machines to be:

simple to work with

accurate

durable

innovative

secure

future-proofed

We are committed to delivering exceptional service to our clients. From the initial consultation to support after purchase, we strive to help you achieve your goals.

We are building the future of shock absorber testing, one piece of equipment at a time.



Pioneering Cutting-Edge Solutions for Automotive Testing



Accurate Movement Control

LABA7's in-house controller and advanced algorithms allow precise replication of the smallest movements. While most of the market uses a ~ 10 kHz control loop, LABA7's solution operates at 21 kHz with a 1500 rad/s resolution bandwidth.



Precision Data Logging

While the industry standard is a 5kHz sampling rate with 100-micron accuracy, LABA7 samples at 20 kHz with 0.05-micron accuracy, providing superior precision in logged sensor data.



Reimagined Power Supply

The smart power supply, the first of its kind on the market, uses supercapacitor packs for high-voltage delivery, eliminating reliance on high voltage/amperage input and enabling precise movement control and data logging.

Built-in LED
illumination is sold
separately

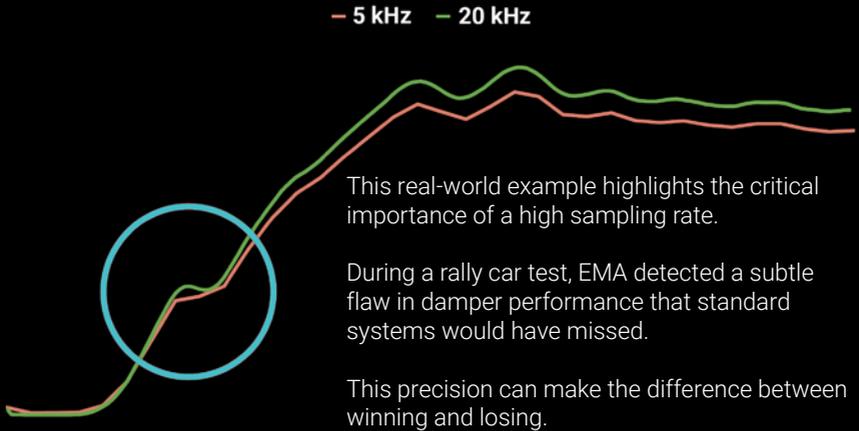


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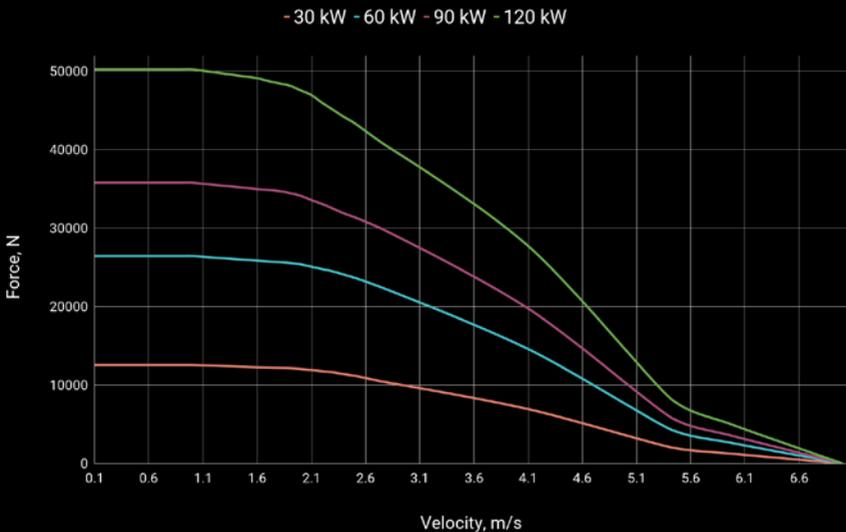
ElectroMagnetic Actuator
Linear motor

30 kW
60 kW
90 kW
120 kW

Importance of Sampling Rate



Force vs Velocity Graph of EMA



Force measured at 100 mm stroke tests.
Force measured in impulse testing method.
Maximum force can vary according to damper characteristics.

EMA by LABA7 comes feature-rich and brings jaw-dropping specs. We developed our electromagnetic shock dyno to deliver remarkably accurate results at an affordable price. To provide the best damper testing experience and results, we designed next-gen components in-house from the ground up.

Control Unit

The control unit seamlessly interfaces with the data logger, facilitating real-time feedback on damping forces generated by the shock absorber.

Incorporating state-of-the-art technologies such as silicon carbide (SiC) MOSFETs has empowered us to generate significantly more power at a fraction of the cost.



Power Unit

The EMA smart power supply unit is a game-changer in how we approach power needs.

While the larger EMA versions require a 380V 16A input, the smallest model can operate from a standard 220/240V outlet.



MOTOR CONTROL AND MEASUREMENT UNIT

- > Position resolution and sampling rate: 50 nanometers / 20 kHz (digital)
- > Load cell resolution and sampling rate: 20 bit / 20 kHz
- > Temperature sampling rate and resolution: 12 bit,
- > 1 analog output channel: 0... 10 V 12 bit, up to 20 kHz
- > 2 analog input channel: 0...10 V/4...20 mA 12 bit up to 20 kHz
- > 1 isolated CAN interface for extension add-on communication
- > 5 open drain outputs, 8 A
- > 2 open drain outputs, 1 A
- > 2 digital input channel: 0...24 V
- > RS485 interface for extension add-on
- > 1 isolated USB interface
- > HDMI interface
- > 2 USB non-isolated interfaces.

Features

- > Rod force calibration
- > Warmup and interval testing
- > Unlimited graph comparison
- > Force vs Displacement
- > Force vs Velocity, PVP graphs available for sine wave tests
- > Force, Displacement and Velocity over time graphs
- > Pass/Fail feature, manufacturing mode
- > Live dyno data preview
- > Testing preset

Configuration

- > Velocity
- > Acceleration
- > Force
- > Temperature and stroke limits

Patterns

- > Single pulse with adjustable rise/fall time
- > Sine
- > Triangle
- > Square
- > Custom wave - track data imported from telemetry devices

Price (ex VAT) 65,000 EUR 87,000 EUR 128,000 EUR 176,000 EUR

Actuator power	30 kW	60 kW	90 kW	120 kW
Peak force @ 2 m/s	10 kN (2248 lbf)*	20 kN (4498 lbf)*	30 kN (6744 lbf)*	40 kN (8992 lbf)*
Max velocity	7,000 mm/s (276 in/s)			
Min velocity	0.1 mm/s (0.04 in/s)			
Max test frequency	150 Hz			
Max acceleration	100 G			
Data sampling frequency	Digital position sampling 20 kHz. Synchronized analog load cell sampling 20 kHz, 20-bit resolution.			
Additional ADC channels	8 synchronized channels. Up to 10 kHz sampling rate.			
Position resolution	50 nanometers			
Stroke (mm)	250 mm (9.85 in)			
Power requirement	3-phase 380/400 VAC 16 A. Can be optimized for 1-phase 220/240 VAC or other configurations. Contact us to learn more.			
Cooling	Compressed air			
Supported waveforms	Sine, Triangle, Square, Pulse, Pink noise, Sweep, Chirp, and Direct track data import.			
Temperature sensor	Infrared, from -40°C to +150°C NTC, from -40°C to +150°C			
Free mounting length	0 – 955 mm (0 – 37.6 in)			
Operating temperature	From +5°C to +30°C			
Dimensions WxDxH	Test bench: 680 x 720 x 2393 Power supply unit: 610 x 820 x 1150			
Weight with power supply	750 kg	790 kg	830 kg	870 kg
Anchor pad	Standard feature, no extra cost			
Safety enclosure	Standard feature, no extra cost			
Software	Shock dyno software v2 , no extra cost			

* Depends on the damper. Depends on the stroke.

Data Acquisition System for Shock Dynos

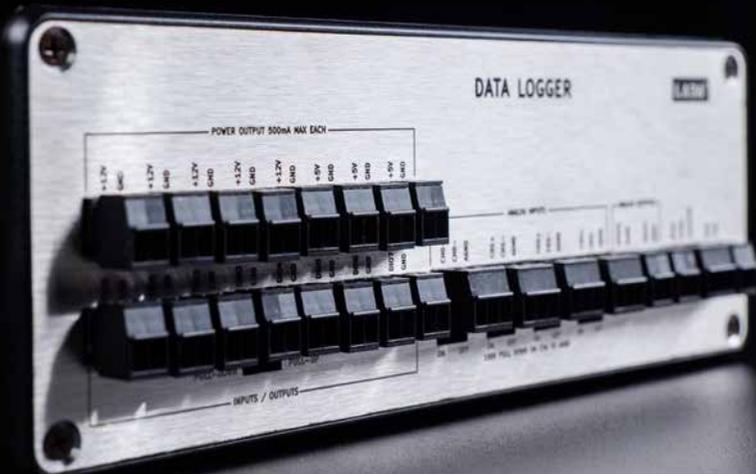
The LABA7 designed this compact Ethernet-based data acquisition (DAQ) system to enhance the functionality of your LABA7 shock dynos. Whether you operate a Scotch-Yoke Dyno (SYD) or an EMA, this system significantly expands your testing capabilities.

Connect any sensor, expand without limits, and unlock synchronized high-speed data.

- 16-bit resolution, up to 125 kHz sampling
- Ethernet connectivity for remote logging and configuration
- Integrated 45 W AC/DC power supply – no external adapters required
- Regulated sensor power outputs: 5 × 12 V (500 mA each) + 3 × 5 V (500 mA each)
- Dedicated connectors for each input/output channel
- Differential input reading for noise-free, high-accuracy signals
- RS-485 synchronization for multi-system integration
- Compact, rugged design for lab and motorsport use

EMA model: **5,000 EUR** (ex VAT)

SYD model: **3,000 EUR** (ex VAT)



LABA⁷

Shock dyno
Scotch-Yoke

Heavy
Mid
Light
Featherlight
Adapters

Software

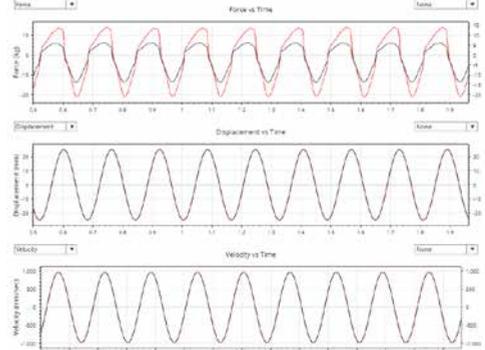
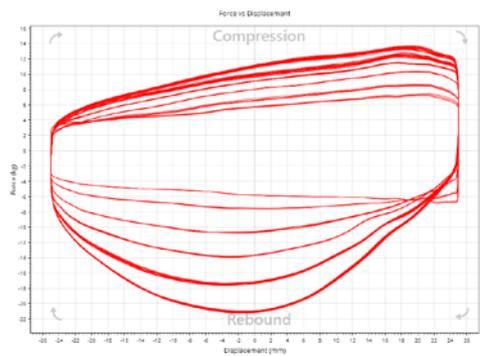
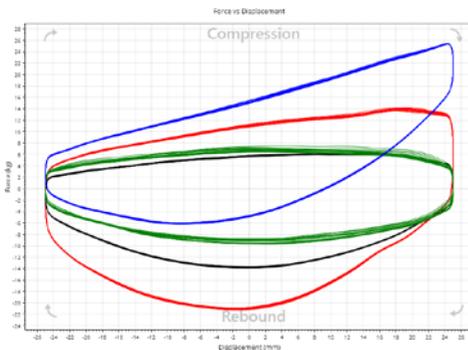
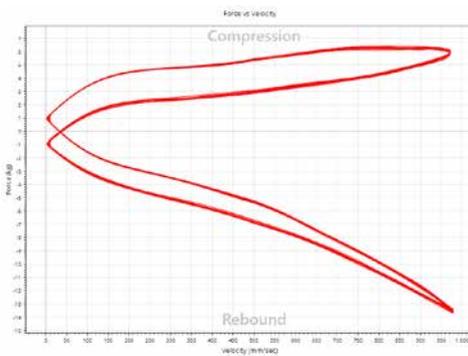
- Modern and intuitive design
- Easy-to-understand real-time graphs
- Simple calibration of the sensor
- Simple Wi-Fi setup
- Print-ready reports
- Export to.csv

Graphs and features

With a press of a button, you can see live shock dyno graphs of the damper you are testing. Whether it is Force vs. Displacement or Force vs. Velocity - you get all the data plotted to test the performance of your shock.

- Modern and intuitive design
- Easy-to-understand real-time graphs
- Simple calibration of the sensor
- Simple Wi-Fi setup
- Print-ready reports
- Export to.csv

Graphs generated by Scotch-Yoke shock dynos





Featherlight Light Mid Heavy Super Heavy

Price, EUR (ex VAT)	9,000	11,500	15,500	19,500	28,000
Velocity	5 – 1900 mm/s up to 74.8 in/s	5 – 2500 mm/s up to 98.4 in/s	5 – 2500 mm/s up to 118.1 in/s	8 – 3000 mm/s up to 118.1 in/s	8 – 3000 mm/s up to 118.1 in/s
Load cell capacity	10 000 N	10 000 N	15 000 N	15 000 N	20 000 N
Motor power	3 HP	4 HP	5.5 HP	10 HP	15 HP
Stroke (mm)	25-50-75-100	25-50-75-100-120-150			
Power requirement	1-phase 220/240 VAC		3-phase 380/400VAC		
	Other configurations are available.				
Mechanics	Scotch-Yoke, for accurate linear motion				
Temperature sensor	Contactless, from -40°C to +150°C				
Free mounting length	0 – 850 mm	0 – 955 mm			
Dimensions (mm)	552 x 1547 x 781	600 x 1810 x 958	616 x 2208 x 1106		
Weight	180 kg	260 kg	~440 kg		
Safety enclosure	Not applicable		Standard feature, no extra cost.		
Software	<u>Shock dyno software v2</u> , no extra cost. 1-on-1 personalized online onboarding and training.				
Technical support	Typical resolution time is less than 24 hours. Spare parts in stock for quick dispatch.				

Adapters



Self-preload clevis - **200 EUR** (ex VAT)

Self-preload clevis can be mounted both at the top and bottom. It enables quick and easy mounting/dismounting of dampers and ensures efficiency in testing.



MTB adapter - **430 EUR** (ex VAT)

MTB fork adapter for 100 x 15 mm, 110 x 15 mm, and 110 x 20 mm inserts.



Trunnion adapter - **210 EUR** (ex VAT)

Offers efficient and secure attachment and detachment of shock absorbers during testing. It safeguards shocks, ensuring a damage-free testing process.



MOTO fork assembly adapter - **600 EUR** (ex VAT)

MOTO fork assembly adapter for 54 mm and 56 mm forks. Custom inserts are available.



Single MOTO fork adapter - **500 EUR** (ex VAT)

MOTO fork adapter for 54 mm and 56 mm forks. Custom inserts are available. Adjustable offset. Easy access to fork settings.



AUTO adapter - **100 EUR** (ex VAT)

Rod-end adapter with 6 custom threads. Threads are individually made for each customer.



AUTO adapter - **150 EUR** (ex VAT)

MacPherson strut holder. 54 mm in diameter to ensure damage-free mounting and dismounting of shock absorbers.

Different sizes are available on request.

Cartridges

MTB cartridges

800 EUR (ex VAT)

> RockShox
RS32 M29x1
RS35 (old) M33x1
RS35 (new) M32x0.5
(Bottom) D8
RS38 M35x0.75
Öhlins RXF38

> Öhlins
RXF36 M34x1
DH38 M35x1
(Bottom) D12

> FOX
32" 1-11/64"-28G
34" 1-15/64"-32G
36" 1-5/16"-32G
38" 1-3/8"-32G
40" 1-31/64"-32G
(Bottom) D13.5

MTB cartridges

400 EUR (ex VAT)

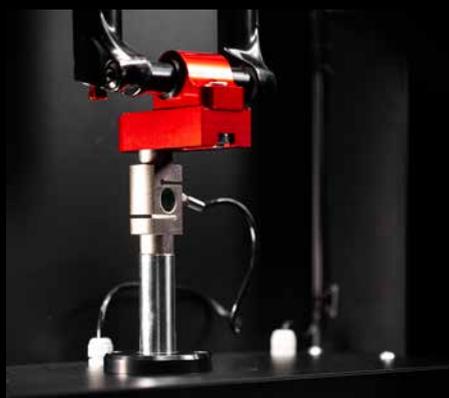
> SR Suntour
AURON RC2 M32 x 1
RL-RC PCS M31 x 1
DUROLUX R2C2 D10.1
(Bottom) D8.1
RL-RC PCS M29 x 1

MOTO cartridges

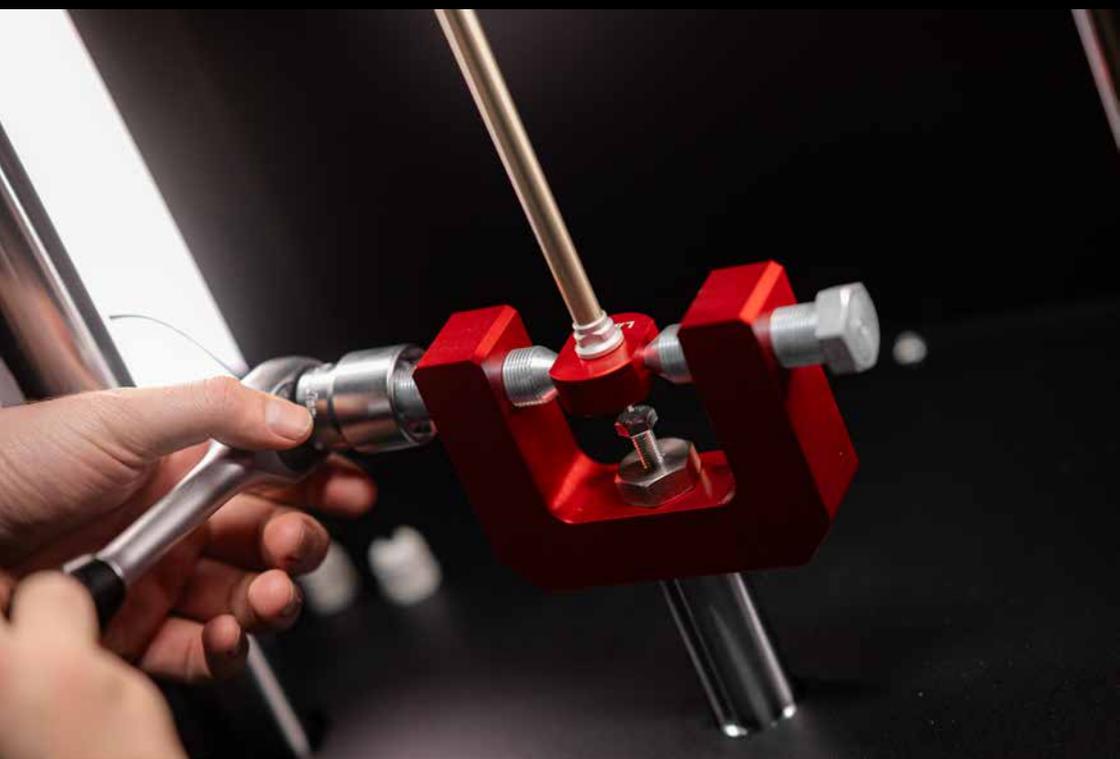
600 EUR (ex VAT)

TOP M51x1
TOP M50x1
TOP M51x1.5
BOTTOM M20x1
BOTTOM M22x1
BOTTOM M15x1
BOTTOM M24x1





LA3A7



6-gen data logger

Meet LABA7's newest and the most powerful data logger for the Scotch-Yoke shock dynos.

When compared to previous generation, this engineering marvel is 50% more accurate and can record 2x more data per second, while ensuring

excellent connectivity. Whether via USB cable, or via WiFi.

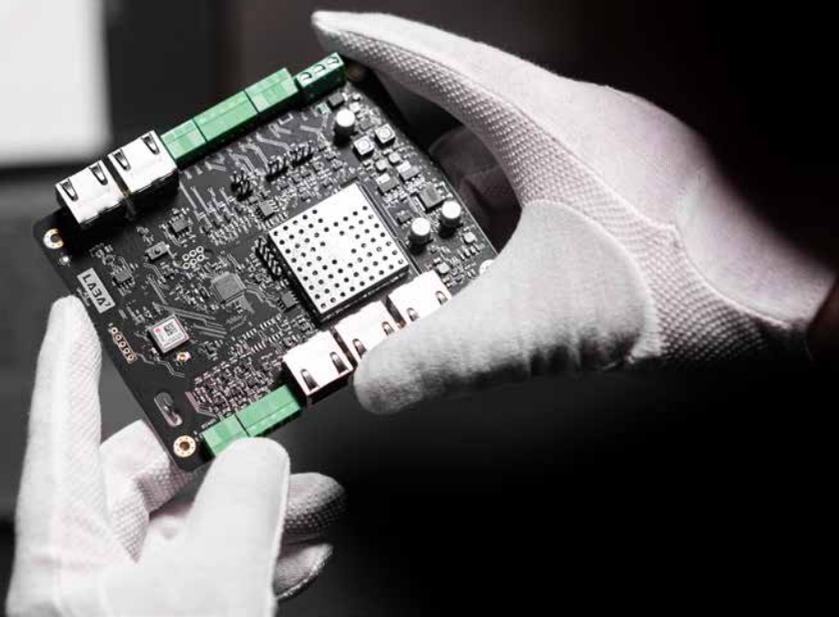
We designed it in-house to ensure highest accuracy, build quality, and upgradability in the future.

Data loggers record and store various parameters during shock dyno testing. These parameters include force, displacement, velocity, temperature, and other relevant data points.

When we talk about shock dynos, data loggers have two very important tasks:

- > capture real-time measurements,
- > ensure that data is not lost during the testing process.

It's their job to obtain accurate data and provide reliable results. So you could make an informed decision about the performance of shock absorbers and dampers.



7

EXTERNAL TANK

EMERGENCY STOP

TANK 2

TANK 1



LABA⁷

Vacuum bleed pump

Fully automatic

PRO
Daily
Module
External tank
Adapters



Fully automatic damper service

As easy as making a cup of coffee!



Connect the shock absorber



Select the program and click "Start"



Let the automatic LABA7 shock bleeder do the rest



External tanks for shock bleeders

Detectable automatically	Yes
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Internal oil level sensor	Yes
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6*-liter tank

Dimensions	287 x 577 x 284 mm
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Weight	17 kg
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Price	700 EUR (ex VAT)
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3*-liter tank

Dimensions	225 x 537 x 250 mm
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Weight	12 kg
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Price	500 EUR (ex VAT)
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* To prevent foaming oil from overflowing, the tanks are restricted from being fully filled.



Manual

Module

Daily

Pro

Price (ex VAT)

1,800 EUR

2,600 EUR

3,100 EUR

4,100 EUR

Fully automatic	No	Yes		
Internal tanks	Yes, two 2-liter*	No	Yes, two 3-liter*	Yes, two 6-liter*
External tanks	No	Yes, mandatory	No	Yes, optional
Presets	No	Yes, 8 custom presets, saved in memory		
Adjustable pressure	Yes, manual	from 0.5 BAR to 4 BAR		
Adjustable vacuum	No	from -0.3 BAR to -0.99 BAR		
Filling modes	No	Bladder Shock and Separating Piston		
Oil level inspection	Visual	Digital / Automatic		
Multiple shocks at once	Yes, two			Yes, three
Required power	1-phase 220/240V 50Hz 1-phase 100/120V 60Hz			
Controls	Gauge and valves	4.3" color LCD and rugged knob for easy controls		
Altitude adjustment	No	Yes		
Dimensions (mm)	322 x 324 x 380	260 x 271 x 343	333 x 497 x 478	411 x 497 x 551
Weight	25 kg	17 kg	34 kg	44 kg
Technical support	Typical resolution time is less than 24 hours. Spare parts are always in stock for quick dispatch, ensuring uninterrupted operation even in busy workshops or field environments.			

* To prevent foaming oil from overflowing, the tanks are restricted from being fully filled.

Adapters



MTB adapter kit - **375 EUR** (ex VAT)

Made from stainless steel and aluminum.

- > FOX FIT4, FIT CTD, RC2, DHX2, X2, DPX2, DHX Air, DHX RC
- > Rockshox Brain (pre 2018 and post), Charger, Pike, Lyrik, Yari, Boxxer, Monarch, Deluxe Plus, Vivid
- > Öhlins TTX22M, RFX36
- > Cane creek DB Inline
- > Marzocchi Bomber RC (2018+)



AUTO adapter kit - **375 EUR** (ex VAT)

- > 41.4x9.4 M6x1
- > 41.4x9.4 M5x0.9
- > 41.4x9.4 M4x0.75
- > 60x7 M3x0.5
- > G1/4



Glass adapter - **130 EUR** (ex VAT)

The additional bleeding tank can be brought closer to the shock absorber and help you bleed more complicated shocks.

Adapters



MOTO adapter kit - **375 EUR** (ex VAT)

Made from stainless steel and aluminum.

- > WP-all shocks and WP steering dampers
- > KAYABA-MX and Street
- > SHOWA-MX and Street
- > ÖHLINS -all shocks and steering dampers
- > Mono Cross SACHS



MOTO gas tank kit - **400 EUR** (ex VAT)

For the following diameters of expansion tanks:

- > 40 mm
- > 46 mm
- > 48 mm
- > 52 mm
- > 54 mm
- > 60 mm
- > 64 mm



LA3A⁷

LABA⁷

Spring rate tester
Automatic

PRO
Daily
Mini
Adapters





Mini

Daily

Pro / Industrial

Price, EUR (ex VAT)	3,500	4,500	8,000
Automatic tests	Yes		
Preload	Manual or Automatic (force-based)		
Adjustable stroke	0 – 150 mm	0 – 300 mm	0 – 350 mm
Adjustable crossbar	–		Yes, reinforced
Maximum allowed force	10 000 N	10 000 N	15 000 N
Motor	Lead screw actuator		Ball screw actuator
Reinforced components	–		Yes
EOL testing focused	No		Yes
Free rear spring length	305 mm (easy to customize)	374 mm (easy to customize)	–
Free front spring length	430 mm (easy to customize)	564 mm (easy to customize)	–
Spring length	–	–	Up to 815 mm
Required power	1-phase 220/240 V 50 Hz 1-phase 100/120 V 60 Hz		
Dimensions (mm)	505 × 957 × 310	642 × 1904 × 570	642 × 2144 × 570
Weight	70 kg	140 kg	190 kg
Software	LABA7 Spring dyno software , no extra cost. 1-on-1 personalized online onboarding and training.		
Technical support	Typical resolution time is less than 24 hours. Spare parts are in stock for quick dispatch.		



LA3A7

EMERGENCY STOP

Adapters



Self-preload clevis - **200 EUR** (ex VAT)

Self-preload clevis can be mounted both at the top and bottom. It enables quick and easy mounting/dismounting of dampers and ensures efficiency in testing.



U-clamp - **100 EUR** (ex VAT)

Universal adapter for AUTO and MOTO. Can be mounted both on top and bottom.



MTB fork adapter - **350 EUR** (ex VAT)

Mountain bike fork adapter with inserts for these forks:
100 x 15mm
110 x 15mm
110 x 20 mm
Custom inserts are available.



MOTO fork adapter - **425 EUR** (ex VAT)

Motorcycle fork adapter with inserts for 58.4 mm, 59.2 mm, 60 mm, and 60.9 mm forks.

Custom inserts are available.

LABA⁷

Racing Scales

For cars and motorcycles

PRO
LITE
Accessories

Digital. Portable. Accurate.

The LABA7 wireless race car scales-no cumbersome wires, no proprietary devices. Enjoy unparalleled accuracy and high-performance measurement, all encased in the brilliance of our award-winning design, redefining both functionality and style.

- > Maximum accuracy
- > Wireless operation
- > From the lightest kit cars to trucks
- > Levelling has never been easier
- > Continuous app updates
- > No unnecessary devices while ensuring excellent connectivity via Bluetooth.



Customized balancing experience





Price (ex VAT)

1,200 EUR

2,500 EUR

4,000 EUR

Number of pads	2	4	4
Accuracy	±0.1% FS (C3)		
Resolution	10 g		
Repeatability	≤0.05% of applied load		
Off-center load error	≤0.15%		
Long-term drift	≤0.02% FS (1 h @ 20-25 °C)		
Creep	≤0.03% FS (10 min @ 50% FS)		
Refresh rate	10 Hz Pit mode, 2 Hz Precision/Cal mode (selectable)		
Pad deflection	0,53 mm @ 500 kg, centered	0,42 mm @ 500 kg, centered	
Pad stiffness	k = 9,532 N/mm @ 500 kg	k = 11,902 N/mm @ 500 kg	
Load sensors	3 per pad	4 per pad	
Max weight per pad	600 kg	1,200 kg	
Safe overload limit	150% of maximum load		
System capacity	1,200 kg (2 pads)	2,400 kg (4 pads)	4,800 kg (4 pads)
Materials	Low-deflection billet aluminum and steel, anodized		Billet aluminum, anodized
Leveling	Three-point leveling (included)		Five-point leveling (included)
Dimensions	320 x 360 x 70-100		400 x 450 x 59
Weight per pad	4.5 kg		13 kg
Connectivity	Wireless, Bluetooth 5.1 LE		
Power	3 x AA batteries per pad		
Software	LABA7 Car Scales on the App Store // LABA7 Car Scales on Google Play		
Software features	<ul style="list-style-type: none"> Total, axle, and corner weights Cross-weight % and targets 2D Center of Gravity analysis Fuel & driver weight/position customization 2- or 4-wheel weighing Vehicle notes and setup memory Automatic software updates 		
Environmental	IP54 // -10...+50 °C // 10-90% RH		
Calibration	Factory 5-point calibration		
What's included (kit)	<ul style="list-style-type: none"> 2 pads Leveling feet Laser level and towers App (iOS/Android) Quick-start user manual Factory calibration certificate 	<ul style="list-style-type: none"> 4 pads Leveling feet Laser level and towers App (iOS/Android) Quick-start user manual Factory calibration certificate 	<ul style="list-style-type: none"> 4 pads Leveling feet Laser level and towers App (iOS/Android) Quick-start user manual Factory calibration certificate
	<ul style="list-style-type: none"> Tire adaptor Hubstand alignment plates Hard steel hubstand plate 		

Accessories



Protective case - **500 EUR** (ex VAT)



Drive-on ramps - **500 EUR** (ex VAT)



Sliders - **500 EUR** (ex VAT)



LABA⁷

Suspension tools

MTB shock tester
Bushing sizing toolkit
Runout measuring tool
Stretching and measuring tool
MTB shaft clamp set
Spring removal tool

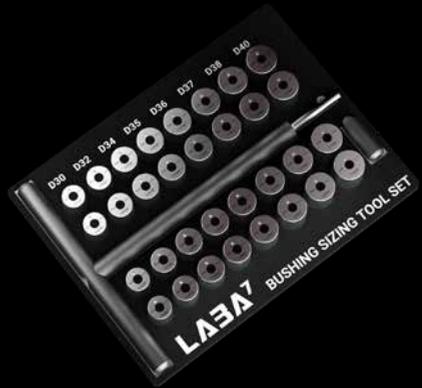
Bushing sizing toolkit

Full set is available in a range of sizes to fit all current forks in the market: 30mm, 32mm, 34mm, 35mm, 36mm, 37mm, 38mm, and 40mm. Each diameter has four increments: +0.04, +0.07, +0.10, +0.13.

Price: **1,500 EUR** (ex VAT)

MINI set is available in a range of sizes to fit most common forks in the market: 32mm, 34mm, 35mm, 36mm, 38mm, and 40mm. All diameters has two increments: +0.04, +0.07.

Price: **700 EUR**



MTB fork clamp set



The clamp set features precisely machined shaft beds and clamping inserts made of hard aluminum 7075 for strong and damage-free clamping.

This clamp set is the most comprehensive option, offering 46 sizes to fit forks and dampers.

Price: **850 EUR** (ex VAT)

MTB shock tester

Both versions include mountings for:

- > Trunnion shocks (55 mm, M10 x 1,5)
- > FOX Brain (81 mm)
- > FOX Brain 2.0 (73 mm)
- > FOX Iso Strut
- > Top eyelet: 8/10/12/12,7/15mm
- > Bottom eyelet: 8/10/12/12,7/15mm

Digital shock testers also include:

- > Pancake-type load cell
- > Easy-to-use app for Android and iOS
- > Power supply - 3 x AA batteries

Price: **950 EUR** (ex VAT)

Price (digital): **1,300 EUR** (ex VAT)



Runout measuring tool

Runout measuring tool allows to assess if there are any deviations from the desired specifications in minutes.

- > Calibrated, billet aluminum base plate.
- > High-quality Hiwin Rails.
- > Adjustable gauge indicator.



Price: **1,000 EUR** (ex VAT)

Stretching and measuring tool

Available in two sizes so you can measure any shock absorber. 150/500 mm and 300/1200 mm.

Mountings in various diameters: 8, 10, 12, and 14 mm.

Made from durable, anodized, billet aluminium and equipped with chrome-coated calibrated shafts.



Price 150/500 mm: **550 EUR** (ex VAT)
Price 300/1200 mm: **750 EUR** (ex VAT)



Spring removal tool

Perfect for rear dampers of MTB, ATV, motorcycles of various disciplines, and some automotive dampers.

- > 5 adapters and 7 height settings
- > Heavy-duty construction
- > Hard anodized columns and bushing-supported slider
- > Operated by hand
- > Dimensions: 885 x 280 x 180 mm
- > Free mounting length up to 650 mm

Price: **650 EUR** (ex VAT)

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2025
Lithuania

LABA⁷

Pit & Paddock Equipment

Torque Measuring Device

LABA7 Torque Measuring Device is designed to evaluate the torque and speed output of impact wrenches and wheel guns. It connects directly to the tool, capturing real-time performance data under load.

The device can also measure and display compressed air pressure or battery voltage simultaneously with torque and speed readings.

- Maximum measuring torque: **5,000 Nm**
- Maximum measuring speed: **30,000 RPM**
- Measuring frequency: **100,000 Hz**
- Software: **Windows OS**
- Price: **4,500 €**

