

# kBox 4 Lite / Pro

## PRODUCT MANUAL

Version 1 - September 2016



# **Personal injuries may occur if these precautions are not observed**

*Best to read and understand warning labels and user manual prior to use.*

The kBox can deliver a supramaximal\* workload. Do not exercise at an intensity you cannot manage.

Workout at a submaximal\*\* intensity until you are familiar with the equipment.

If you feel dizzy or experience pain, stop exercising immediately.

Exxentric takes no responsibility for any injuries that may occur.

Keep away from moving and rotating parts.

This machine and accessories are intended for strength training only. Do not use in any other way.

Exercising at maximum intensity may cause temporary staggering and uncontrolled body movements due to fatigue. Exercise caution to prevent falling.

The machine might get slippery when wet. Use clean shoes and dry machine with a cloth if its wet. Shoes with spikes, dirt, stones can damage the rubber surface of the kBox.

Never stop an exercise in top position.

Both feet have to be placed on the kBox during exercise if it's not fixed to the ground.

Always place the kBox on a levelled surface.

If you have balancing problems, be sure to have support by a spotter or fixed object like a wall.

Always make sure children and pets cannot access the machine when in use.

*Inspect the machine before use.* Damaged or worn parts and warning labels must be replaced. See user manual for how to change and cut the drive belt. Do not modify the machine or repair it with non OEM parts.

\*) Supramaximal means higher than maximal. This means higher loads than your muscle can produce themselves in a shortening (concentric) action.

\*\*) submaximal means below maximal. In this case, we would recommend below 75% of max intensity.

This Manual covers a description of the Kinetic Box, or kBox, a Flywheel Exercise Device, a guide to its use, and how to maintain it.

*Always check EXXENTRIC.COM for latest info and manuals.*

SPECIFICATIONS	Page 4
INTRODUCTION	Page 5
FEATURES OF THE KBOX	Page 7
USING THE KBOX	Page 9
MAINTENANCE	Page 12
KMETER	Page 14
ACCESSORIES	Page 15
WARRANTY	Page 17

## **CAUTION!**

*Like any exercise program, it's important that users are capable of performing exercises on this exercise equipment and have verified this with their personal physician.*

## kBox specifications - model 3, 4 Lite and 4 Pro

	<b>kBox3</b>	<b>kBox4 Lite</b>	<b>kBox4 Pro</b>
<b>Foot print in cm (inches)</b>			
width	100 (40")	77 (30,5")	98 (38,5")
depth	50 (20")	52 (20,5")	63 (29")
height	23 (9")	21 (8,5")	23 (9")
<b>Top surface in cm (inches)</b>			
width	90 (35,5")	70 (27,5")	90 (35,5")
depth	45 (17,5")	45 (17,5")	55 (21,5")
area [sq.m]	0,40	0,32	0,50
Weight kg (lbs)	15,6 (34)	11,1 (24)	14,8 (33)
<b>Materials</b>			
chassis	aluminium	aluminium	aluminium
flywheel	steel	steel	steel
color	powder coating	powder coating	powder coating
<b>Features</b>			
kMeter ready	yes	yes	yes
drive belt-autoretract	yes	-	yes
quick change flywheel	-	yes	yes
foot support option	yes	-	yes
inertia range kgm <sup>2</sup>	0.01 - 0.20	0.01 - 0.10	0.01 - 0.28
inertia factor	x20	x10	x28
change angle of direction*	yes	yes	yes
Flywheel options			
0,01	yes	yes	yes
0,025	yes	yes	yes
0,05	yes	yes	yes
0,07	-	-	yes
Flywheel generation**	gen 2	gen 3	gen 3

\*) kBox3 and kBox4 flywheels are not interchangable between devices

# INTRODUCTION

## What is it?

The kBox is a self-contained, compact exercise platform for various strength movements. It is a flywheel exercise device and uses the physics of inertia and mass acceleration (centrifugal) to provide a high and variable resistance in both the concentric and eccentric\* movements of the user.

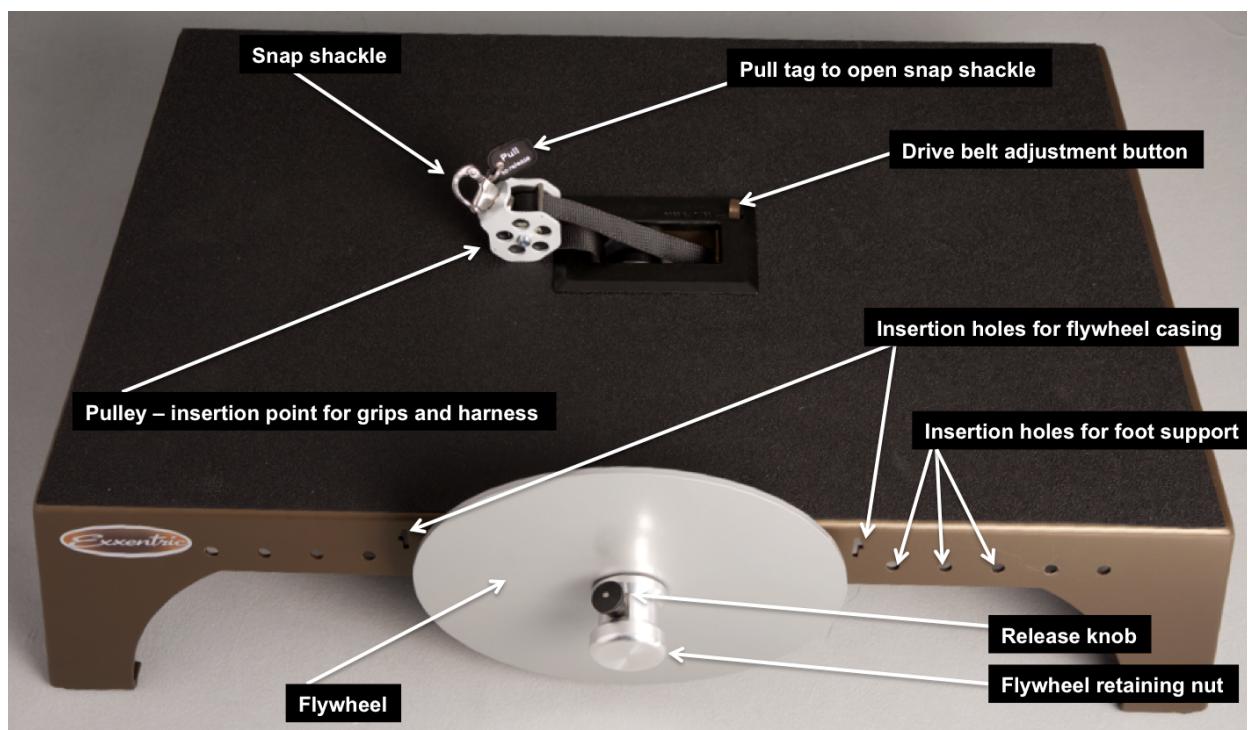
*\*) concentric muscle action is when the muscle action when being shortened while an eccentric muscle action is when the muscle is being elongated during action. In some literature, concentric and eccentric is called positive (shortening) and negative (lengthening) phase.*

## How Does It Work?

The kBox has an adjustable-length drive belt wound around a shaft located beneath the platform. Different combinations of flywheels are mounted on the end of the shaft.

Using hand grips or a harness attached to the Pulley, the User pulls to accelerate the flywheel and then resists to decelerate the flywheel as the Belt winds in the other direction.

A Drive Belt Length Adjustment Button allows for quick adjustment of the Belt length for the type strength work desired. Push the button to release and adjust length or just push button to automatically retract the belt (Pro) or manually shorten it by pulling the loose end (Lite). An extension belt is used for overhead work (for example military press).



# INTRODUCTION (cont.)

---

## Setting Up the kBox

The kBox can be attached to the floor if desired. There are attachment holes on each foot.

If training without both feet on the kBox is anticipated, the platform must be attached to the floor or weighted down so it cannot move.

## The Flywheel

There are four different weight flywheels included with the kBox giving different rotational inertia. The flywheels inertia are 0.01, 0.025, 0.05 and 0.07. You can mount four flywheels on kBox PRO and two flywheels on kBox Lite. This will give a range of inertia between 0.01 and 0.280 for PRO and 0.01-0.14 for Lite. Do not try to mount more than the maximum capacity of flywheels.

Experimentation will determine which configuration is required for your level of training, check Training Guide for more information. Mounting or changing flywheels is done by releasing the Retaining Nut by pulling the knob on its side, removing nut, changing flywheel(s) and secure them by pushing the Retaining Nut back on.



## Foot Support

The Foot Support (Pro only) can be positioned straight or with an angle and is secured by sliding the pins into the holes in the front and the back of the kBox4 Pro chassis. Use the side with low angle for lateral movement and the other side if you just want to maintain foot placement during vertical work.



# FEATURES OF THE KBOX

---

## Principle of the kBox

The kBox is a 'flywheel exercise device', often referred to as an FWED. What muscle is being exercised depends on which exercise is being performed.

The principle is that you through muscle force accelerate and decelerate a flywheel (or flywheels). Repeated exercises with high intensity produces high forces that stimulate muscles to hypertrophy and increased activation of the nervous system. These effects together increase strength over time if the exercise is repeated regularly.

## Resistance

The resistance is **variable and unlimited**. The flywheel has a specified inertia and there is no upper limit to how much kinetic energy you can produce in the flywheel motion. You can think of the flywheel as a weight that weighs more if you put more effort into lifting it. Resistance is variable so if you pull less, the flywheel will resist less.

Every repetition in a maximal set is maximal instead of only the last one which is the case with traditional weights. This results in a higher training efficiency, earlier onset of strength increase and also hypertrophy.

### **note that.....**

*the higher efficiency of the kBox may require longer periods of rest between sets and training days to fully recover.*

## Eccentric Loading

The kBox provides for **increased eccentric workloads**. The skeletal muscles can produce higher force in the eccentric, or negative phase. This is difficult to take advantage of with traditional weights, which always weigh the same.

If you accelerate the flywheel during the concentric, or lifting phase and then decelerate in a shorter amount of time, you will have to produce a higher eccentric force. This will be similar to lifting a too-heavy weight with help from training partners but executing the eccentric (lengthening) phase by yourself. Check Training Guide for more information on eccentric overload.

## Mobility

The kBox is mobile in comparison to traditional weights. Squatting with the kBox is equivalent to traditional squats which would require a barbell, weights up to 500 lb. for a strong lifter which is practically impossible to carry around. In addition, you don't need rubber mats or racks to use the kBox.

## FEATURES OF THE KBOX (cont.)

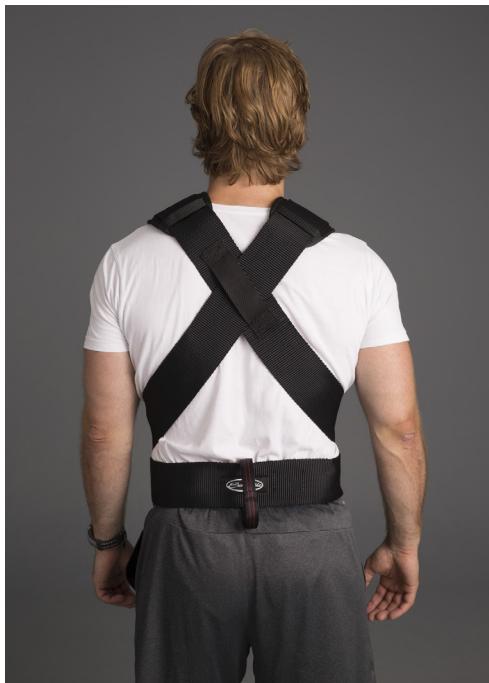
### Mobility (cont.)

Further on, you do not need spotters to be able to do 1 RM (Maximal repetitions). All this is possible with the kBox which weighs about 22 kg (48 lbs) with the flywheels included and it can be carried and transported easily in an ordinary car. The kBox Lite can even be checked in as luggage when flying.

---

### Ergonomics

Pressure over the shoulders is one limiting factor for many when performing traditional barbell squats. Serious bruising can be seen after heavy sets. Furthermore, the lumbar spine discs are under a lot of pressure, even if the athlete has good technique. With tall people, people with a weak core, or back problems, squatting is almost impossible or accompanied with a lot of discomfort or pain. With the kBox, you are able to work out maximally or closer to maximum intensity since the harness equalizes the pressure over the shoulders and reduces the pressure and torque on the lumbar spine.



### Work Environment

The kBox is quieter when training. The area does not have to be equipped with sound reducing materials. There is a much lower risk of collision so that more people can work out in a smaller room without the risk of interfering with each other and inducing injuries.

---

# USING THE KBOX

## Foot Placement

Feet are placed differently depending on which exercise you are performing. Make sure drive belt goes smooth into the device and reposition yourself if it goes against the edges or twists. Use short foot support for restricting the stance, allow for lateral push movements or heel support in calf press.



## Using the Harness

Attach the Harness to the Pulley with the Harness ends turned inwards (red double-stitched sides towards each other) which gives a smoother contact with the thigh. The snap shackle makes it possible to have an emergency release, just attach a cord in the snap shackle pin for the athlete or trainer to hold and pull to release or pull the tag that comes attached from the factory.



Be sure the Harness fits comfortably and is not too loose (various sizes are available). It should not slip down over the shoulders. Upper chest strap can be loose and bottom strap more tight for best comfort.

## USING THE KBOX (cont.)

### Using the Harness (cont.)

Use the Drive Belt Length Adjustment Button to set the Belt length to allow the Belt to fully reach the upper end of the exercise movement. For beginners and rehab patients doing upper body exercises, the top position should be just before all active joints are fully extended. For experienced users, there can be some slack in the top position to minimize strain on the belt and hook at the reversal point. Remember to not stop the movement in an extended position when the flywheel is spinning as this will put strain on your joints if hypertightened.



### Exercising with harness

Bend your knees slightly and take up the slack in the Belt using your hand to rotate the flywheel and rewind some of the belt.

Now, accelerate the flywheel by starting the exercise at a lower intensity. Accelerate the flywheel at every repetition. After two to four repetitions you should have reached your desired training intensity.

Perform your training set, usually 6 -12 repetitions at desired intensity.

Decelerate the flywheel on the way down and stop at the bottom. Slowly return to your start position and let the flywheel stop completely. Detach the Harness, step off the platform and prepare yourself for the next set. Take a adequate rest between sets.

## USING THE KBOX (cont.)

---

### Using the Grip/Bar

Attach the desired Grip or Bar.

Position your feet as described above.

Use the Drive Belt Length Adjustment Button to set the top position for the actual exercise. As with the harness, for beginners and rehab patients doing upper body exercises, the top position should be just before all active joints are fully extended. For experienced users, there can be some slack in the top position to minimize strain on the belt and hook at the reversal point. Remember, though, to not stop the movement in an extended position as this will put strain on your joints.

---



Put the flywheel in motion to roll up the belt. Accelerate the flywheel by starting the exercise at a lower intensity. Accelerate the flywheel at every repetition. After two to four repetitions, you should have reached your desired training intensity.

Perform your training set (usually 6 -12 repetitions).

Decelerate and stop the flywheel on the way down. Don't put down the handle or grip before the flywheel(s) has come to a complete stop. Rest accordingly.

# KBOX MAINTENANCE

## Drive Belt Cautions

The Drive Belt and its attachment to the axle is the most sensitive part of the kBox. Be attentive to wear and check regularly.

When the Belt shows signs of wear and tear, trim the end by cutting off the damaged area or replace it with an original spare Drive Belt.

### kBox4 Lite & PRO

#### Trimming worn Belt



If damage occurs close to the shaft it is possible to cut off the damaged end and reattach the new end. Procedure:

- Unwind all of the belt from the shaft (left picture).
- Use the Locking Pin Removal Tool to push the Belt through the shaft and remove the Locking Pin.
- Cut off the damaged Belt.
- Fold Belt around Locking Pin and pull the Belt and Pin into the wider groove in the shaft.
- The Belt automatically locks into the groove when you pull it firmly.

Video: <https://youtu.be/x8jPQHyLqV8>



# KBOX MAINTENANCE (cont.)

## kBox4 Lite

### Replacing the Drive Belt



Remove the Belt end attached to the axle as described above and push the Belt Adjustment Lever and pull that end of the Belt through the opening in the platform. Follow these steps to complete the replacement:

1. Lay kBox4 Lite up side down so the belt Adjustment Button is pushed and locking mechanism opens.
2. Pull out all the belt through the locking mechanism and the hole in the side of the chassis.
3. Insert a new drive belt in the hole in the chassis and through the locking mechanism.
4. Flip kBox4 over. Put drive belt through pulley and shaft.
5. Fold belt around lockning pin and pull belt back so the pin slides into the hole in the shaft.
6. Make sure Drive Belt is secured and that it is not twisted somewhere before you start training.

Video: <https://youtu.be/TK7641xKYsI>

## kBox4 PRO

### Replacing the Drive Belt



Remove the Belt end attach it to the axle as described above and push the Belt Adjustment Lever and pull that end of the Belt through the opening in the platform. Follow these steps to complete the replacement:

1. Push out the pin holding the Drive Belt in the shaft using the metal key.
2. Remove Belt from the shaft and Pulley. Make a knot on the Belt.
3. Flip kBox over. Take out all the Belt from the Auto retract, disconnect and fixate the short strand to the kBox.
4. Remove the old Belt completely. Take a new Belt and attach it to the short strand and let it slide in gentle into the Auto retract.
5. Take the free end through the holes in the chassis and the locking mechanism and make a knot. Flip kBox back.
6. Put Belt through Pulley and Shaft. Lock it in the shaft with the pin.

Video: <https://youtu.be/uge5mig5mGY>

# kMeter

## Overview

kMeter Module is connected to built-in rotational sensor under the kBox with the 4-pin connector. kMeter Module is powered with a standard 9 V battery.

After release in May 2015 all new kBoxes are delivered with a kMeter Module. kMeter Module sends wireless data over Bluetooth to the corresponding iOS app, Exxentric kMeter which can be downloaded for free from Apple AppStore. kMeter App uses rotational data and user-input of inertia to calculate and present power in real-time and a set summary containing average power for every rep, average power for set, peak power in CON and ECC for every rep and for set in total, range of motion, force, number of reps, average. rep time and energy expenditure. User can input training data after completed set (exercise, comment and VAS 0-10 to be used for pain or exertion for example). All data can be stored in an in-app database for later view in the app or exported to Excel.

---

## Manual

For info on how to connect and operate the kMeter module and app, see it's manual. For information about the metrics and their precision, check exxentric.com > equipment > kMeter

## Download App

Free download in AppStore

<https://itunes.apple.com/us/app/exxentric-kmeter/id979885523?mt=8>



# KBOX ACCESSORIES

kBar



kGrip



Flywheels



Extension cord



Harness



kMeter Module



## Ankle Cuffs



# WARRANTY

Valid from 03-10-2013

- THE TERMS AND CONDITION'S APPLICABILITY. This Agreement applies only to the sale of products in new condition in the EU or in a market where a certified dealer is established. For the individual consumer, warranty runs from the original delivery date for 12 months in parallel with the conditions specified in the current consumer law. For trade companies, warranty runs for 12 months from the original delivery date and with the conditions set out in this agreement
- PARTIES OBLIGATIONS Exxentric undertake - with the exception of the cases specified in paragraph 5 below - in case of malfunction or damage to the product to replace defective parts. More extensive repairs are to be carried out by an Exxentric designated service center.
- WHAT CONSTITUTES AN ERROR Errors are professionaly determined deviations from the normal standard that manifests itself during the period specified in paragraph 1. The product is considered defective if it differs in the manner stated above and is not, according to Exxentric, likely to be defected due to accident or circumstances that are otherwise attributable to the buyer.
- TROUBLESHOOTING Rectification of defects or delivery of replacement parts will take place within a reasonable time after the buyer notified the error and, if so requested by Exxentric, made the product available to the action of a designated service center. What is considered a reasonable time is determined by the buyer's need for the product, the nature and scope of the error, difficulties in determining the error and access to spare parts and engineering capacity.
- LIMITATION OF SELLER / EXXENTRIC'S COMMITMENT Exxentric's responsibility does not cover the product's consumable parts and wear parts such as for example drive belts, extension cords, snap hooks, rubber mats and feet pads. Also, the warranty does not cover what is considered as normal wear and tear, normal corrosion, or defects in paint or other coating. Also, the buyer may not claim rectification for deficiencies which the seller can show were caused by for example:
  - - that repair or service was done elsewhere than at an authorized Exxentric service center
  - - that non OEM components were used
  - - that use of the product continued after the defect was first noticed
  - - that the product has been used in ways for which it is not designed or sized
  - - that the product has been abused
  - - that the product has not been used with normal care
  - - that the care regulations as per existing instructions have not been carefully observed.
- TRANSPORT SAFETY AND TRANSPORTATION EXPENSE. For repair of extensive defects, the purchaser shall bring the product to a designated service center. Buyer shall after the defect has been remedied pick up the product from the seller or the designated service center. The product can also be dispatched by the buyer to the seller or to the designated service center. Such transportation shall be at the buyer's sole risk and expense. Replacement parts which the buyer can be expected to replace on his/her own are delivered free of charge to the buyer.
- LIMITATIONS OF LIABILITY. For individual consumer, the limitation of liability as stated in the current applicable Consumer sales rules, applies. The buyer is therefore not entitled to compensation beyond what is covered under (2). For commercial customers, Exxentric's liability is limited to what is stated in this agreement. The buyer, therefore, is not entitled to compensation for economic damages beyond the terms specified above, i.e not for personal injury or property damage. Buyer is reminded once again the importance of the product being handled with care and in accordance with the operating manual's instructions!

DISPUTES. Disputes concerning the interpretation or application of this Warranty Agreement shall in the first instance be resolved by agreement between the parties. If such an agreement can not be reached, the dispute shall be settled finally by arbitration at the Stockholm Chamber of Commerce Arbitration Institute (the Institute). The Rules for Expedited Arbitrations shall apply unless the Institute with regard to the case, the amount in dispute and other circumstances, determines the rules of the Stockholm Chamber of Commerce Arbitration Institute shall apply to proceedings. In the latter case the Institute shall also decide whether the arbitral tribunal shall be composed of one or three arbitrators.

