

kPulley Manual

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<http://exxentric.com/manuals>



Personal injuries may occur if these precautions are not observed

Prior to use, please read and understand user manual and warning labels.

The kPulley can deliver a supramaximal* workload. Do not exercise at an intensity which is above your physical capacity.

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 while using this product.

Restrain from moving and/or rotating parts.

This machine and accessories are intended for strength training only. Do not use for other means.

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

Always keep out of reach of children and animals. *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 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.

CONTENTS

This Manual outlines a description of the kPulley, a Flywheel Exercise Device, a guide to its use, and how to maintain it.

Always check exxentric.com/support for latest info and manuals.

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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.

SPECIFICATIONS

Footprint in cm	
width (base)	23 cm (excl. fw protection)
width on wall	9 cm
depth	21 cm (34 cm incl fw protection)
height	225 cm max (standard 180 cm)
Weight kg (lbs)	10 kg (22 lbs)
Mounting holes size	6.5 mm
Materials	
chassis	steel
beam	steel
foot protection	steel
flywheel	steel
color	anodic brown
Features	
working height	40 cm - 180 cm (225 max)
max range	1.5 m
kMeter II	built-in
quick change flywheel	yes
inertia range kgm^2	0.010-0.140
inertia factor*	x14
Flywheel options	
0.01	yes
0.025	yes
0.05	yes
0.07	yes
flywheel generation	kBox4

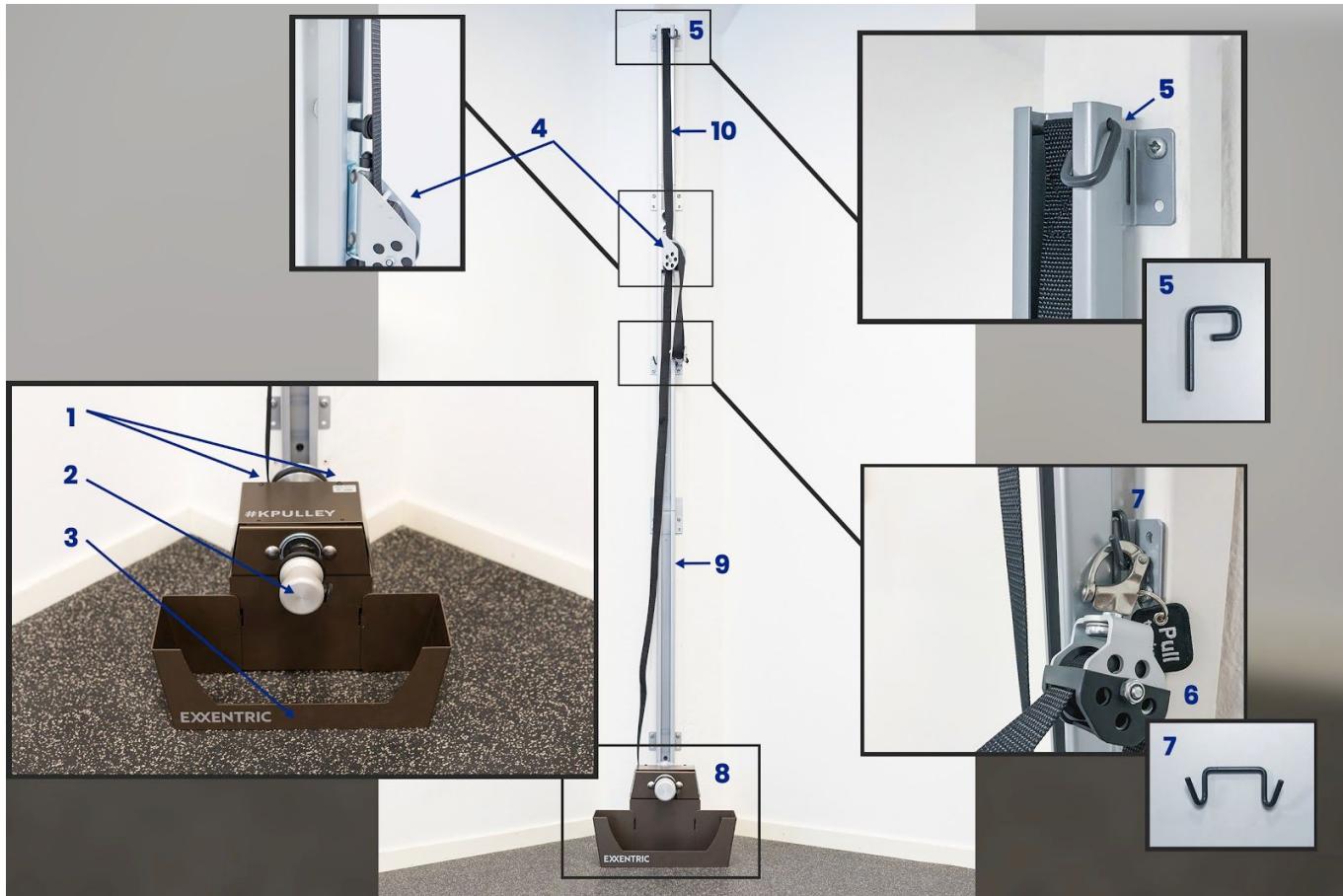
*) inertia factor - highest possible inertia divided with the lowest possible inertia.

Included with the kPulley:

kPulley Base unit with a beam in two parts and pulley block
 kMeter II built-in
 Drive Belt
 Drive Belt removal tool
 kPulley manual
 kMeter II Quick Start Guide

Add-on: extension beam for height 180-225 cm

KPULLEY OVERVIEW



1. Cover plate screws
2. Flywheel knob
3. Foot protection
4. Sliding pulley
5. Belt stop pin
6. Pulley block
7. Pulley hanger
8. kPulley base unit
9. kPulley beam (standard)
10. Extension beam

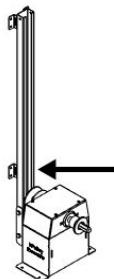
WALL MOUNT INSTRUCTIONS

Screws for mounting not included, use the appropriate screws for your wall specifications. Exxentric takes no responsibility for the mounting of this product and recommends seeking assistance from a professional.

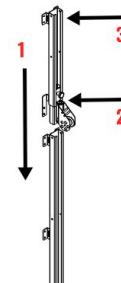
Unpacking and assembly video:
<https://youtu.be/GRAQNKnfntA>



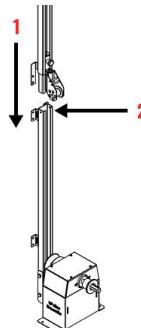
Step 1 - Attach the kPulley with two screws on each side on the lower insertion point.



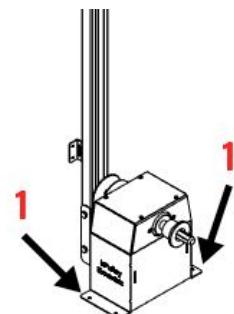
Step 4 - If you have the extra (third) beam for the top, repeat step 2 and 3, ie slide on beam (1) and put screws in overlapping holes (2). Finally, put screws in top fixation point (3).



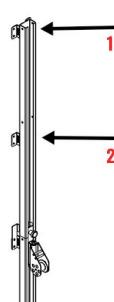
Step 2 - Place the sliding pulley in the lower end of the upper beam (1). Slide the upper beam onto the lower beam and put screws in the overlapping holes (2).



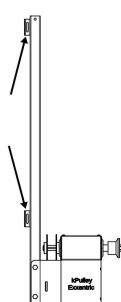
Step 5 - If you want to fixate your kPulley to the floor use the designated holes and appropriate screws for your floor (1).



Step 3 - Put screws in to top fixation point (1) and then the middle (2).



If you attach your kPulley to a column with a loading strap, ONLY use the lower beam. Put the strap through the designated oval holes.



INTRODUCTION

What is it?

The kPulley is a self-contained, compact exercise device used for predominantly horizontal actions. It is a flywheel exercise device and uses the moment of inertia to provide a high and variable resistance in both the concentric and eccentric* movements of the user.

**) concentric muscle action is when the muscle is 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 kPulley has a drive belt wound around a shaft located beneath the platform. Different combinations of flywheels are mounted on the end of the shaft, and you can mount two flywheels up to 0.070 kgm² respectively summing up to a total inertia of 0.140 kgm² in total.

Using hand grips or an ankle cuff attached to the Pulley, the User should then pull to accelerate the flywheel and then resists to decelerate the flywheel as the belt winds in the opposite direction.

Setting up the kPulley

The kPulley must be firmly fixed to a wall or column by being screwed to the wall using the designated (round) holes or fixed by a strong belt in the oval holes.

Flywheel protective casing

The flywheel protection piece must be assembled after unpacking the kPulley. This is recommended highly in order to protect against injury. To fix the protection piece slide the hooks into the holes in the front and push down firmly.



The Flywheel

We offer four different flywheels with inertia: 0.010, 0.025, 0.050 and 0.070 kgm^2 . All flywheels from the kBox4 generation are compatible with the kPulley. The maximum capacity the kPulley can hold at one time is two.. This allows for a range of inertia between 0.010 and 0.140 kgm^2 . Do not try to mount more than the maximum capacity of flywheels.

Experimentation will determine which configuration is required for your level of training. Mounting or changing flywheels is done by releasing the Retaining Nut. To do so, pull the knob on its side, remove the nut, change flywheel(s) and securing them by pushing the Retaining Nut back on until it makes a clicking noise.



FEATURES

Principle of the kPulley

The kPulley is a 'flywheel exercise device'. Which muscle is being exercised depends on which exercise is being performed.

The principle is that through muscle force, you accelerate and decelerate a flywheel (or flywheels). Exercises with high intensity and high forces stimulate muscles to increase in size and the nervous system to increase activation of the muscles. 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 with the more effort you put 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.

Eccentric Loading

The kPulley 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 pulling phase then decelerate in a short amount of time, you will have to produce a higher eccentric force. This will be similar to lifting weights that would normally be too heavy unless assisted by a training partner(s) but executing the eccentric (lengthening) phase by yourself. Check out our Training Guide for more information on eccentric overload.

USAGE

Foot Placement

Stand in front of the kPulley on the floor. Depending on which exercise you wish to perform and the range of motion needed, position yourself closer or further away from the device to get to an appropriate range of motion

Range of motion

Set range of motion by positioning yourself closer or further away from the beam or changing the attachment point for the drive belt.

Standard ROM

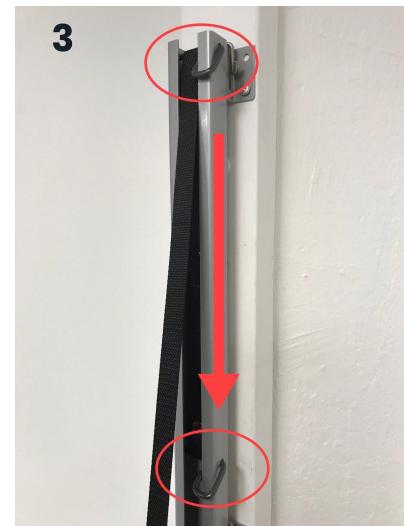
Belt stop pin at the top attachment point (pic 1).

Longer ROM

Belt stop pin down to a lower attachment point (pic 2).

Shorter ROM

Belt around the top pin, attach at lower attachment point (pic 3).



Setting the height

You can select at what height the belt should come out from the kPulley. For horizontal actions, a perpendicular angle to the kPulley / wall is recommended. Pull knob to release the lock. Hold the sliding part in place and adjust the height, let go of the knob and let it click-in and lock the position.



Setup

Select desired inertia and accessory to use for the exercise you want to perform. Connect accessory to the pulley block by pulling the "Pull To Release"-tag on the snap shackle, insert the accessory connecting point and close the snap shackle.

Exercising

Pull gently for 1-2 repetitions to assess that you have the correct inertia and positioning and then increase to desired exercise intensity.

Overload

Use a stronger movement pattern or your body weight to accelerate in CON and absorb with the muscle you want to overload in ECC.

Ex. Row - use lower back to accelerate and absorb with a stiff back to put ECC load on upper back and arms.

Ex 2. Rotator cuff - step away from the device to accelerate in CON and absorb in ECC in this position.

SUPPORT

More info

www.exxentric.com/support for downloading latest manuals, self-help instructions and tutorials.

Blog posts covering flywheel science, physiology and practical applications with the kPulley can be found here at: www.exxentric.com/news

You can find free material such as demos, getting-started tutorials, the kMeter intro course and some other info here at: www.exxentric-academy.thinkific.com. Simply, register with your email for this free service.

Need assistance?

Contact support@exxentric.com and include the serial number found on the backside of the device along with a description of the encountered issue and preferably attach an image or video for visual illustration purposes.

MAINTENANCE

Drive Belt Cautions

The Drive Belt and its attachment to the axle might be replaced after a longer time of heavy use. Be attentive to wear and check regularly.

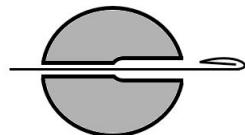
Trim / replace

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.

Drive 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.
- Use Drive Belt Removal Tool to push the Belt through the shaft (pics down left and middle).
- Cut off the damaged Belt and burn it with a lighter.
- Triple-fold the Belt (pic below)



- Pull the Belt firmly back into the wider groove in the shaft.
- To replace the Drive Belt remove Belt from shaft as above, pull it out through the shaft and through the pulley block and the sliding pulley. Unhook the Drive Belt lock at the top of the beam, remove it and the Drive Belt. Re-attach new Drive Belt and the Drive Belt Lock and reverse the procedure.



kMeter module and kMeter II

Overview

kMeter Module allows you to connect your smartphone or tablet with your kBox or kPulley and get training feedback. The kPulley has the kMeter II built-in as standard. It is powered with two AA batteries.

SmartCoach

Previous kMeter module version (wired) works with SmartCoach system but to connect SmartCoach to kMeter II you need a special version of kMeter II with a wire and this needs to be specified when you order your kPulley (or kBox) system.

How it works

kMeter Module sends wireless data over Bluetooth to the corresponding iOS or Android app. The 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 sets in total, range of motion, force, number of reps, average rep time and energy expenditure. Users can input training data after a 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.

kMeter II has a sample rate of 10000 Hz and receives 64 impulses per revolution of the flywheel. This means it can accurately sample data up to rotational speeds of 155 revolutions/second.

Download App

Search for “Exxentric kMeter” in AppStore or Google Play.

More info

<http://exxentric.com/kmeter>

ACCESSORIES

kPulley accessories

Flywheel (0.010, 0.025, 0.050 and 0.070 kgm²)
kMeter II feedback system (built-in from factory)
Extension beam for height 180–225 cm
kGrips (two single grips)
kBar (ultra light bar)
Exxentric Ankle Cuff (two single pieces)
Exxentric Rotational Sling
Exxentric Hip Belt
Exxentric Harness (XXS, XS, S, M, L, XL, XXL)
Exxentric Head Harness
Spare Drive Belts
Exxentric Accessory Rack
Exxentric Flywheel bag

Accessories for other devices

Extension Strap for overhead movements
Foot block Short for kBox4 Lite / Active
Foot block Long (for kBox4 Pro)

Visit exxentric.com for more info on products and accessories!

WARRANTY

Valid from 03-10-2013

- 1) THE TERMS AND CONDITIONS' 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
- 2) 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.
- 3) WHAT CONSTITUTES AN ERROR Errors are professionally 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 have been defected due to accident or circumstances that are otherwise attributable to the buyer.
- 4) 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.
- 5) 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 straps, 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.
- 6) 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.
- 7) 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 cannot 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.