

BIOROWER

PRO

**ASSEMBLY, USE & BASIC
MAINTAINANCE**



On behalf of BIOROWER we would like to congratulate you on your investment in your health, the fact that you will actually enjoy indoor rowing from now on, and on your investment in your independence from outside circumstances. You can now enjoy the true rowing motion whenever you choose to do so. It is a full body, full range of motion, low joint impact, yet high strength and cardio workout.

Enclosed you will find important guidelines regarding set-up, usage, and maintenance. BIOROWER offers an extensive warranty. Positive handling of warranty issues requires proper use of your BIOROWER smart rowing simulator according to this manual and common-sense practice. In case of doubt what to do, always contact your local dealer or BIOROWER works directly.

Warranty terms

All new BIOROWER products are covered by a global bring-in warranty as follows:

2 years on moving parts, wearing parts, including transmission components (excluding timing belts)

5 years on frames and frame elements

6 months on wear and tear

seat rollers

slide frame rollers

oar-lock springs

oar adjustment lockers

Excluded from our warranty are rubber oar handles

This warranty is valid from the date of the initial purchase.

If bring-in is not an option for you, we express ship spare parts and help you via remote video call with self installation.

Maximum user weight: 150kg



DO NOT open the main cover at any time. DO NOT REACH UNDERNEATH THE COVER at any given moment.

Warranty is subject to proper service and maintenance according to the service plan as stated in the manual. **PLEASE MAKE SURE YOU HAVE READ AND FULLY UNDERSTOOD ALL DETAILS OF THIS MANUAL BEFORE YOU START TO SET UP OR USE YOUR ROWING MACHINE.**

IF YOU ARE NOT SURE WHAT TO DO, ALWAYS ASK BEFORE YOU ACT.

You reach us by e-mail: info@biorower.com

or at the contact specified on our website which is www.biorower.com → contact.



Reaching for anything underneath the cover, the sliding frame, the corpus wheels or any other moving parts of the machine may result in serious injury. DO NOT ROW WITHOUT THE COVER!

This rowing machine may only be used by healthy adults. We recommend to get your doctor's approval before engaging in physical exercise such as indoor rowing. Never touch any rotating or moving parts of a BIOROWER except the oar handles while rowing.

CAUTION! Always check for correct position and stable fixing of the foot stretchers. If they should be loose, it may result in injury. While rowing, no one may touch the foot stretchers or the main frame.

RECEIVING AND UNBOXING

Inspect the crate for damages after reception. Do not sign anything until you have actually taken the time to look at the crate thoroughly. Apart from small scratches, we mark everything on the receipt of the driver, take photos and also a photo of the document. Then we sign, ask for a counter signature and start unboxing. When damages become visible during unboxing, immediately take notes and photos, and send everything to your dealership or to us at BIOROWER.

WHAT IS IN THE BOX

- Slide frame (consisting of 3 components: rectangular rear frame, connection piece and front rail)
 - The Main Unit
 - 2x Outriggers (1x Left / 1x Right)
 - 2x Piston rod (1x Left / 1x Right)
 - 2x Oar locks with sculling handle (1x Left / 1x Right)
 - 1x Sweep oar handle and additional oar lock spring
 - Seat
 - Foot stretcher
 - Rubber cords (2x)
 - Assembly tools:
- Screws for seat stoppers M6 x 45mm (2x)
 - Cylinder head screw M10 x 8mm (4x)
 - USB charger cable (2x)

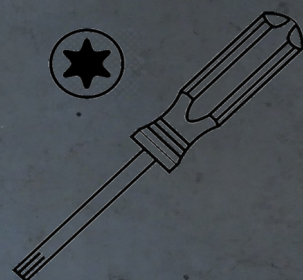
→ Allen keys: 1 x 6mm, 1 x 5mm, 1 x 4mm, 1 x 3mm, 1 x 2,5mm,

→ Fork keys: 1 x 24mm, 2 x 17 mm, 1 x 10mm

→ Cross slot / Phillips screwdriver

→ Screws M10 (2x), Nuts M10 (2x)

→ Seat stoppers (2x)



TORX 20 / 25 SCREWDRIVER



Remove the lid, take out all components except for the main unit and those parts of the slide frame that sit underneath the main unit. Then unscrew the side walls of the crate. Remember to keep all screws nicely together, ideally in a little bag. The front and rear wall can be left in place. Please remember to keep the crate for possible warranty shipping.



Then take out the main unit and put it on its wheels on the floor.

CAUTION! The wheels have sharp edges, which may cause damage to your floor! Make sure that the main unit cannot start to move on a possibly uneven floor. It may be damaged or cause injury and / or damage if it hits something or somebody else.





CAUTION! Never do the set-up of your BIOROWER alone. Always do the set-up of your rowing machine in a team of at least two, preferably three adults. The weight of some of the components exceeds 100kg. Especially people who suffer from problems with their joints or their back should not participate in the set-up work of sports equipment such as the BIOROWER. Always wear work clothes, closed shoes with anti-slip soles and ideally work gloves. If there should be anything unclear with the set-up and use of your BIOROWER, please contact your certified BIOROWER dealer or contact the BIOROWER headquarter.



FLOOR

CAUTION! It is necessary to use a stable, flat, durable, omni-directionally leveled and slip-proof surfaced ground of at least 300cm x 200cm. Make sure that your floor can support sufficient dynamic masses: The total weight of a single BIOROWER Pro is 150kg, depending on the version and configuration. Add the athlete's weight to the BIOROWER and the fact that the masses are constantly moving back and forth on the slide frame during rowing when checking the necessary floor stability. If you are not 100% sure, contact a professional to help you with the assessment.



TEMPERATURE

WARNING! Always use and keep your BIOROWER in areas with constant temperature between +10° Celsius and +35° Celsius to prevent the clutches losing grip and possibly cause injury during rowing due to sudden loss of resistance.



AIR: HUMIDITY AND SALINITY

We recommend to store and use your BIOROWER in an environment with 30% - 60% relative humidity, and low salinity levels. Deviating conditions may lead to premature corrosion and wear of rubber and steel components. Always thoroughly dry off sweat after rowing to avoid corrosion.

We strongly recommend not to store and use your BIOROWER outdoors!

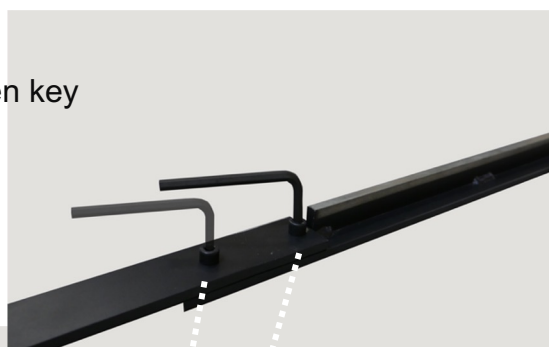


x4

Assemble slide frame exactly where your Pro should have its final position.

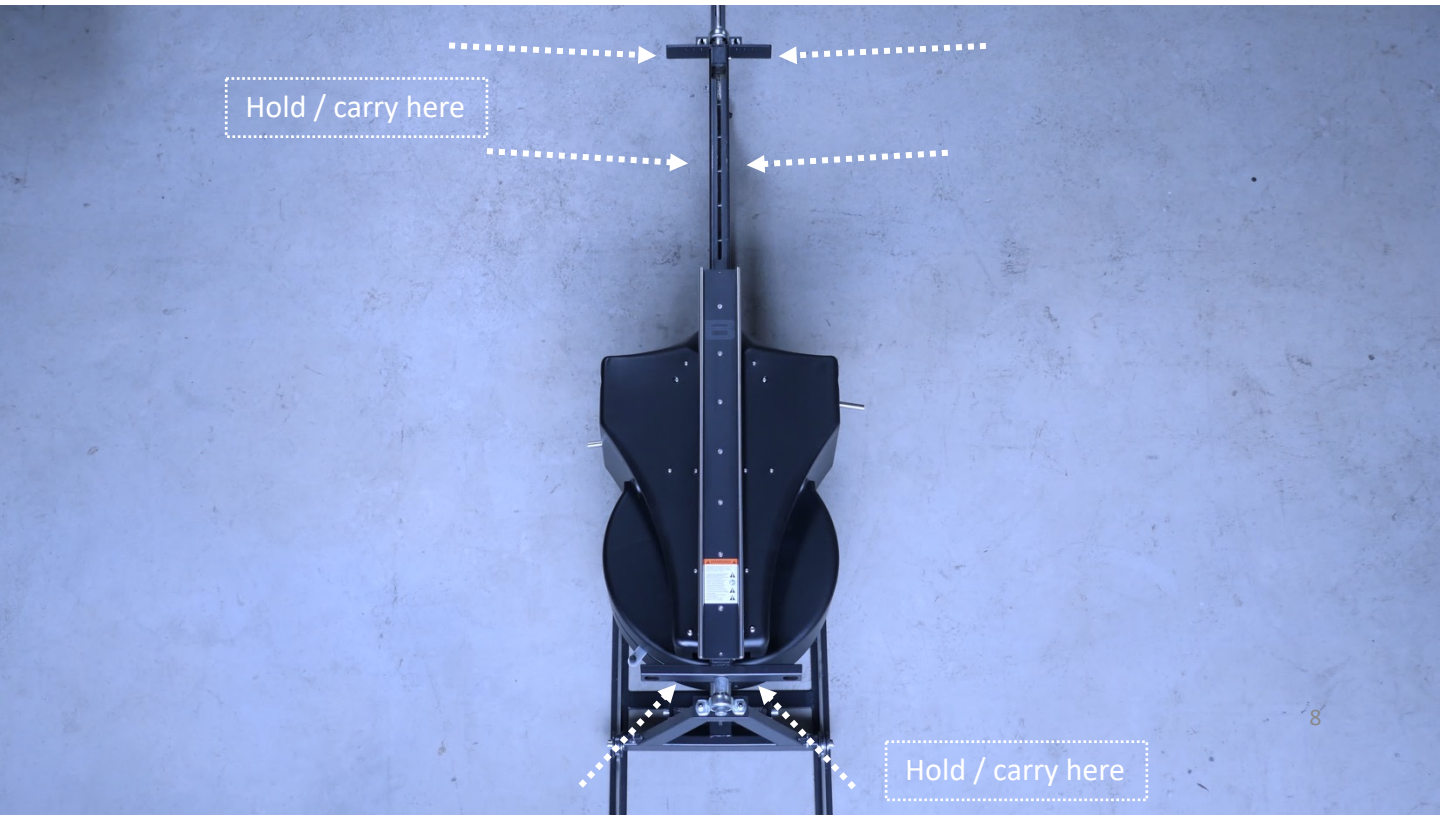


6mm Allen key



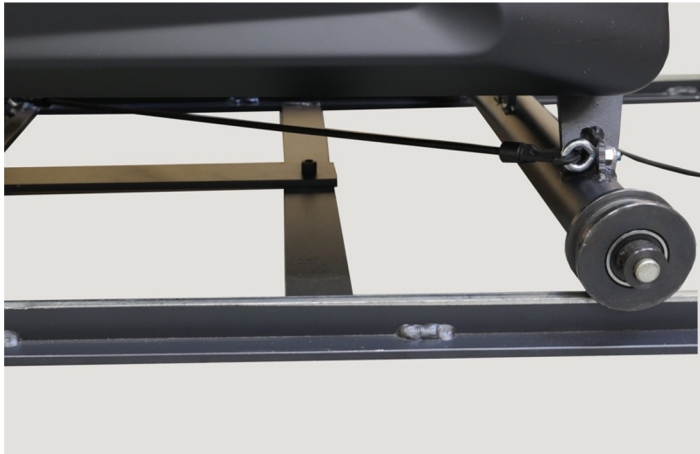


Put the main unit on the slide frame. Do not hold it on the cover, but on the frame components only! We highly recommend to wear closed shoes, and to perform this step with three to four strong and healthy adults.



MOUNTING RUBBER CORDS

Mount both rubber cords diagonally. These are interchangeable. The first one on the back end of the sliding frame, the second one underneath the main body.



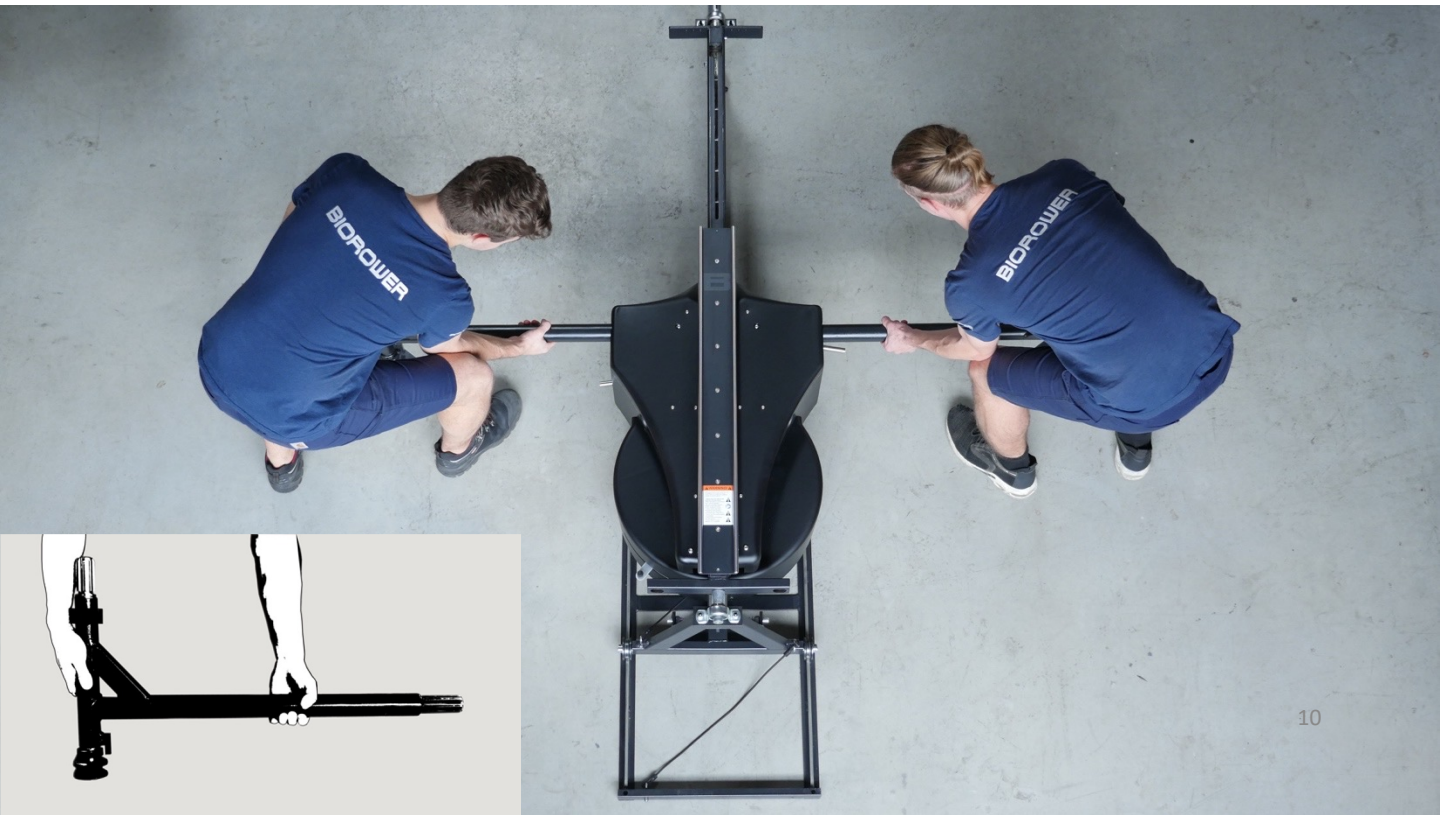
MOUNTING OUTRIGGERS



Important! The right-side outrigger and the left-side outrigger differ from each other and must be mounted on the correct side. Therefore, you will find a label on the bottom of each outrigger with a “right” or “left” indication.



Insert each outrigger **ALL THE WAY** until you feel and hear a solid metal-to-metal noise. The rigger will not go in unless it is held in a vertically and horizontally straight position. The image below indicates how we hold an outrigger to insert it evenly and smoothly.

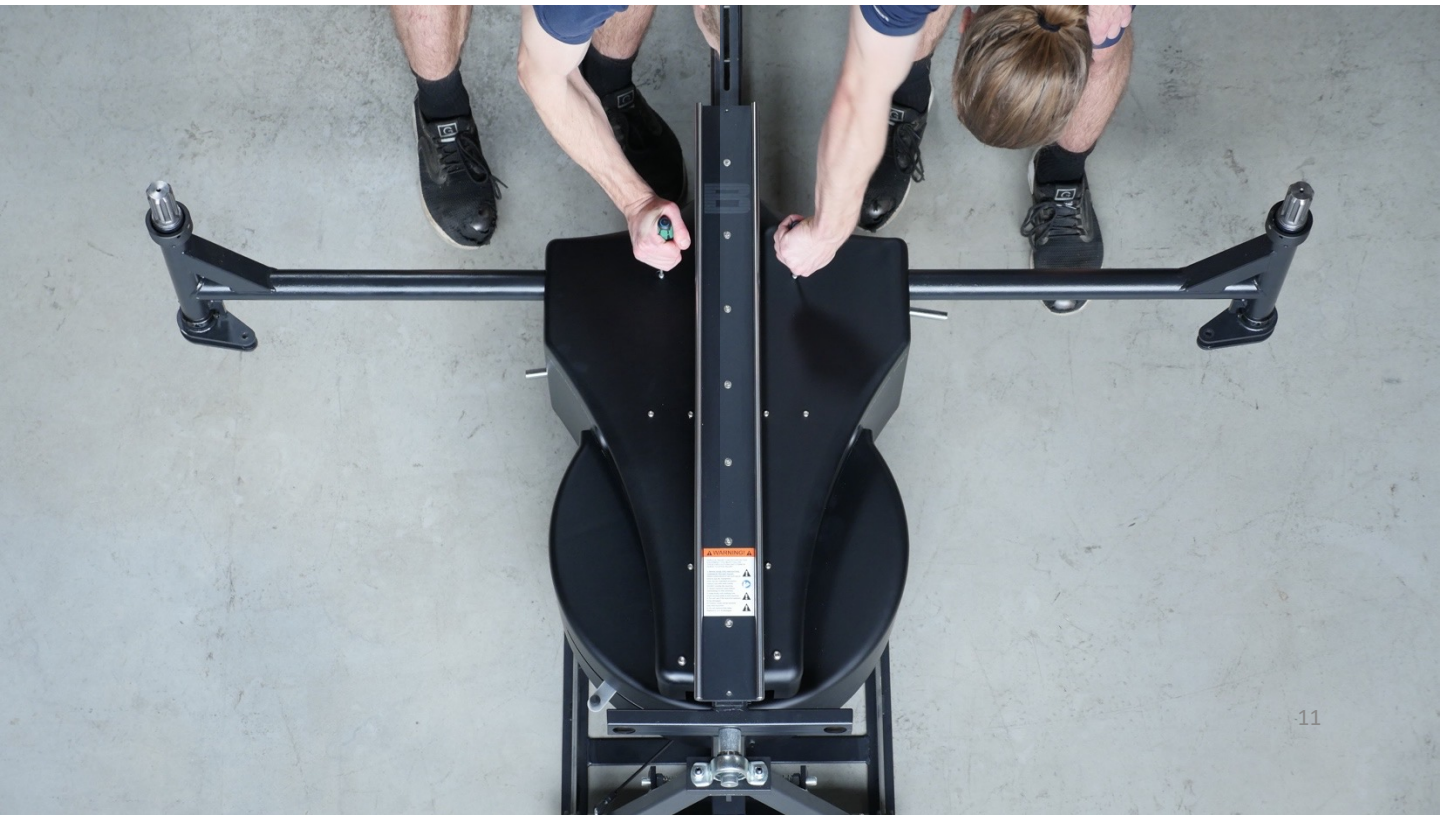




TROUBLESHOOTING

If you cannot insert the outrigger all the way, please make sure that the Allen screws are not screwed-in too far. If your riggers are not inserted all the way on both sides, you will feel unequal resistance when rowing and your range will be limited on one side as well.

Once the outriggers have been properly inserted, tighten the Allen screws on each side with a 4mm Allen key. If this is not tight, there will be significant play/lack of resistance at the catch, and the rigger will show premature signs of (excessive) wear. We recommend to check for tightness after the first three and then after 10 rowing sessions.



MOUNTING PISTON RODS

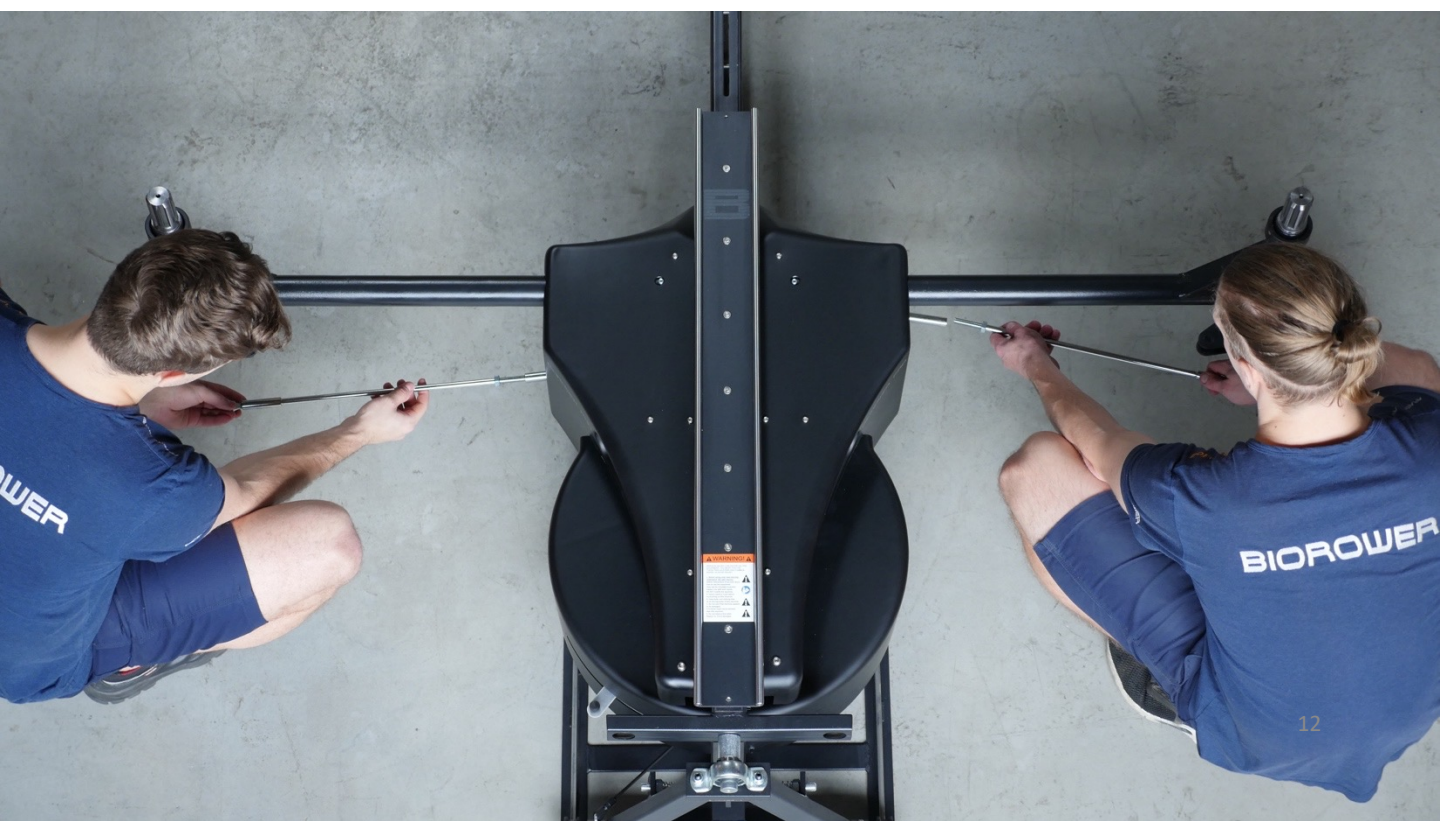
The length of both piston rods differ from each other and are not interchangeable. This is why they are labeled accordingly “left” and “right”.

Screw the piston rods on each side into the main body all the way, and then rotate the entire piston rod back out (approximately $\frac{1}{4}$ to $\frac{3}{4}$ rotation) so that the rods end on the outside (which will connect to the outrigger in the next step) is horizontally aligned. Then carefully tighten the securing nut with a 17 mm fork key.

DO NOT ADJUST THE PISTON RODS' LENGTHS BY ROTATING THE EYE SCREW ITSELF AS THIS WILL ADJUST THE GEARING RATIO OF THE LEFT AND RIGHT OAR.

Insert the draw bar between the two black fork elements of the rigger-draw-bar-mount. Make sure that the washer is placed below the draw bar eye screw. Then insert the bolt from top to bottom and tighten it properly with two 17mm Fork keys.

If this is not tight, there will be significant play/lack of resistance at the catch, and the rigger will suffer from excessive wear.





MOUNTING OAR LOCKS AND OAR HANDLES

Rotate both spline shafts all the way into the catch position by hand. Be careful: sharp edges!
When all the way in the catch position, the left piston rod will be parallel to the rigger, the right one not.

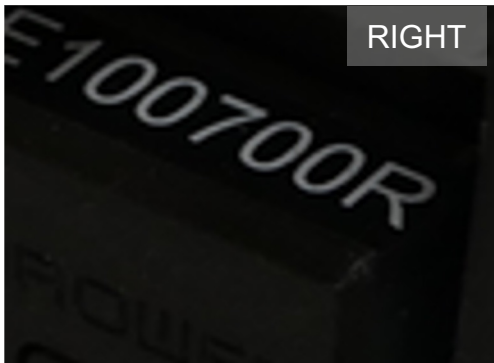


Hold each oarlock vertically and horizontally levelled when mounting. Make sure to assign left and right correctly. You will find an “L” and an “R” at the end of the serial number on the black sensoric box.





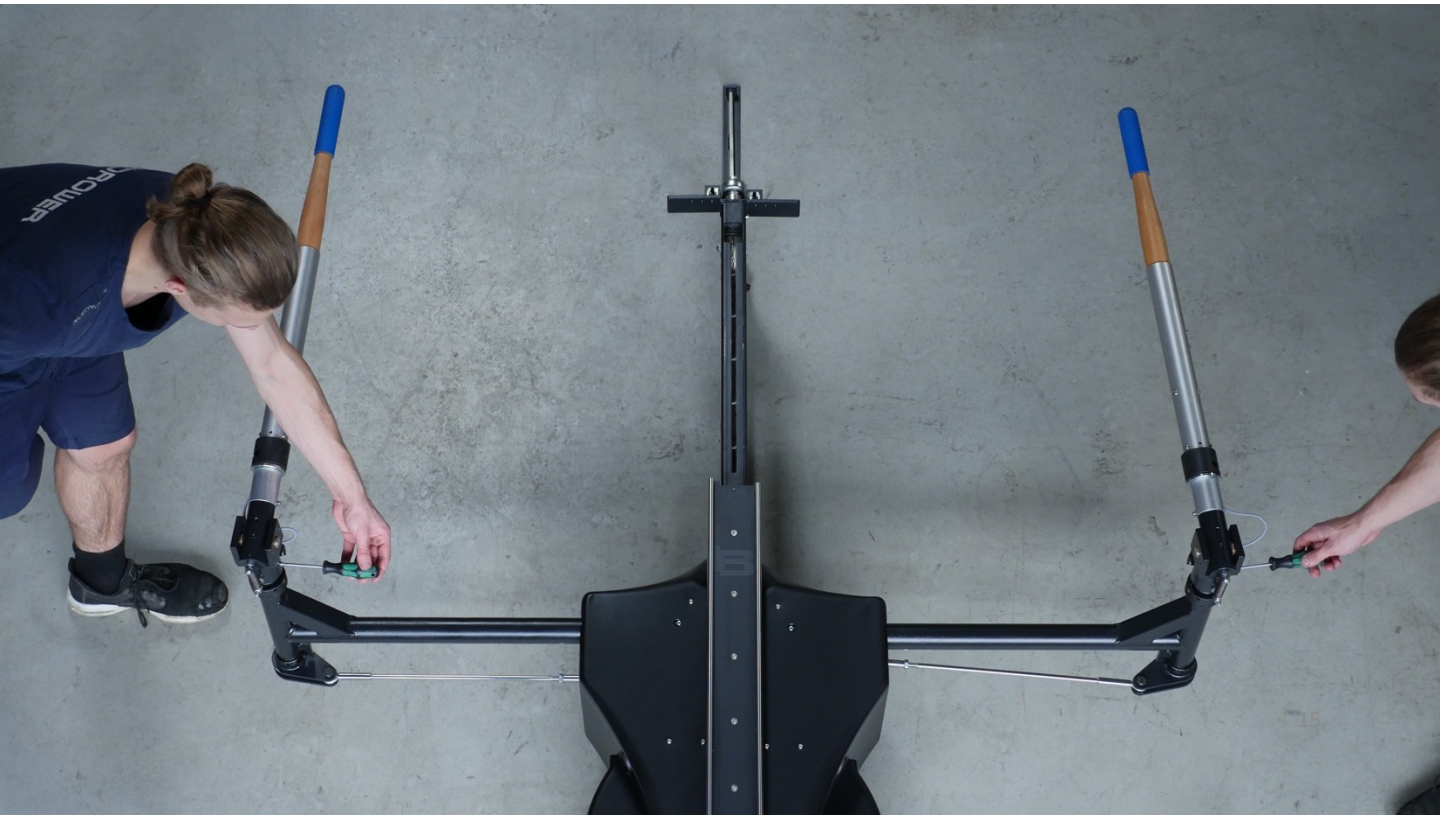
LEFT



RIGHT

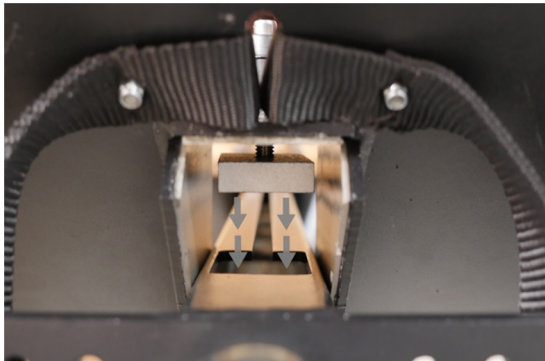


Both oarhandles should be mounted in the maximum catch position, which is approximately 84°. The right piston rod should not be parallel to the outrigger, the left one should. After the oarhandles are placed in the right position, close the Allen screw with an 4mm Allen key on both sides.



MOUNTING FOOT STRETCHERS

Place the foot stretchers on the intended main opening (square opening on the front frame)
Make sure the quick clamping lever is loose and its bolt should be visible 3-4 mm. Flat washer and check nut are now inside the mainframe, the foot stretcher is now directly placed on the mainframe.



WARNING! Serious injury can occur! Not fixing / securing the foot stretchers tight may result in injury. During rowing do not touch the foot stretchers or the mainframe and let nobody from outside touch the rowing machine while it is in use!



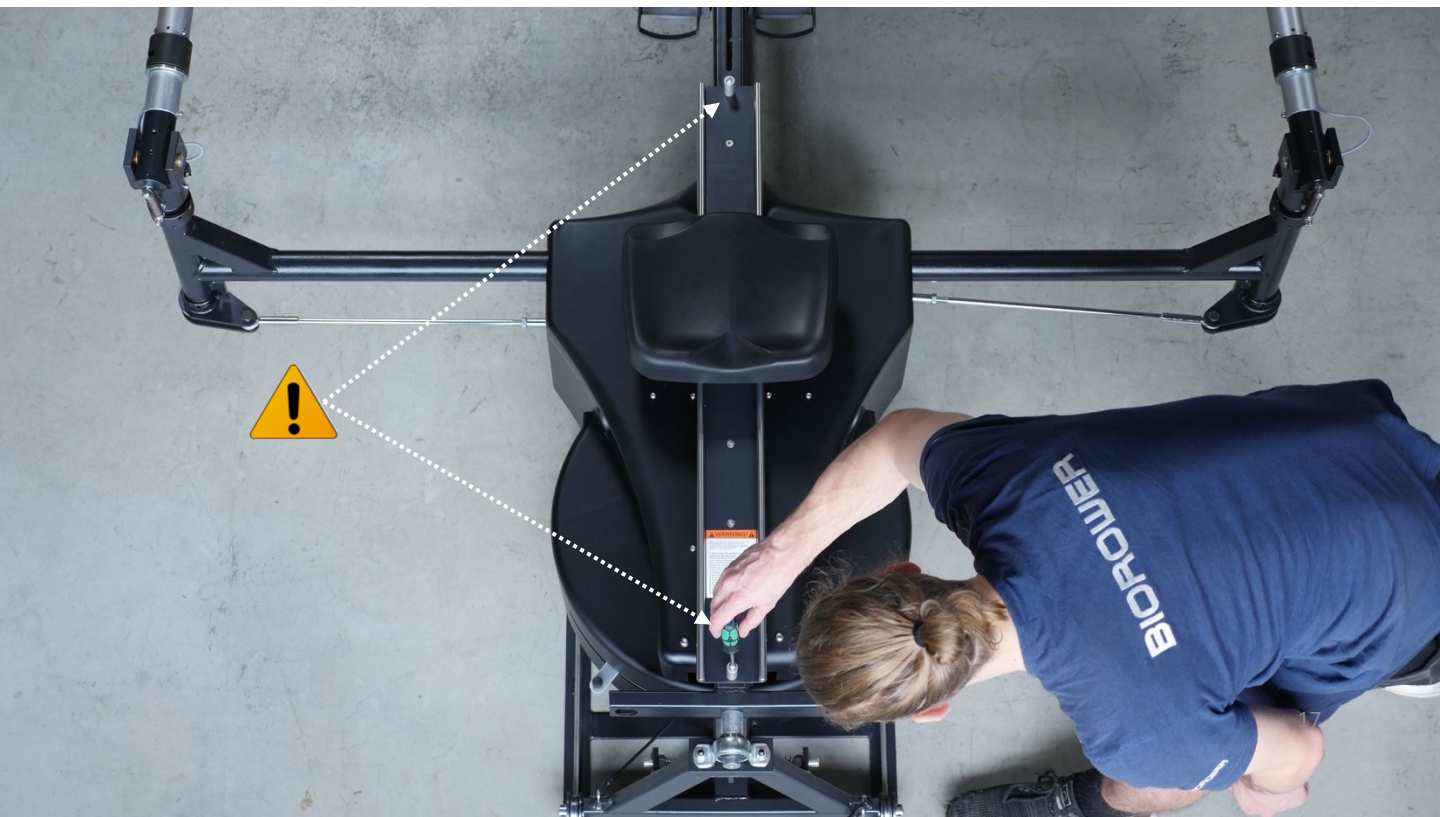
The quick clamp lever can be lifted to move freely. In the downposition it will lock and tighten or untighten the foot stretchers.



MOUNTING THE SEAT



Secure tight with 4mm Allen key

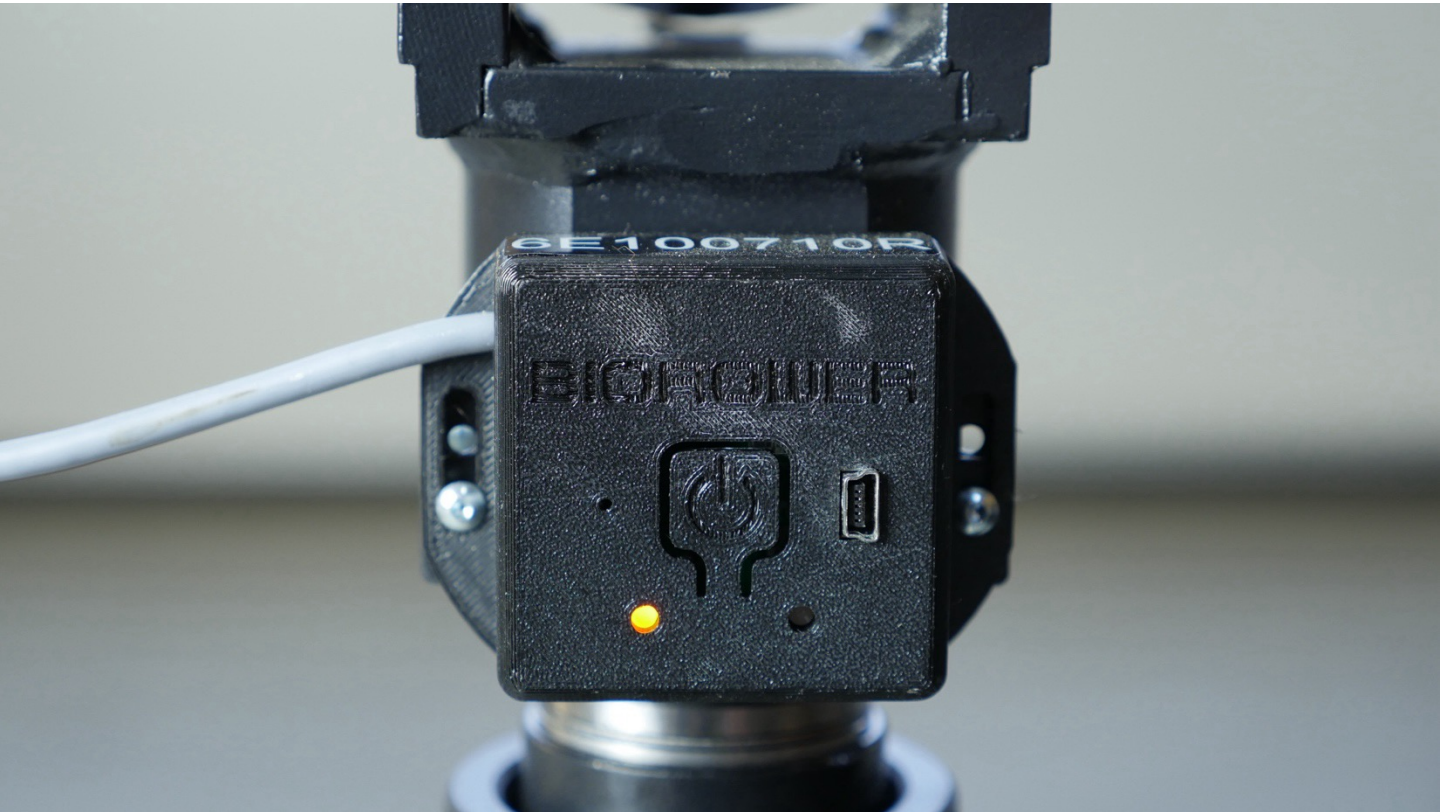


MOUNT TABLET & START APP

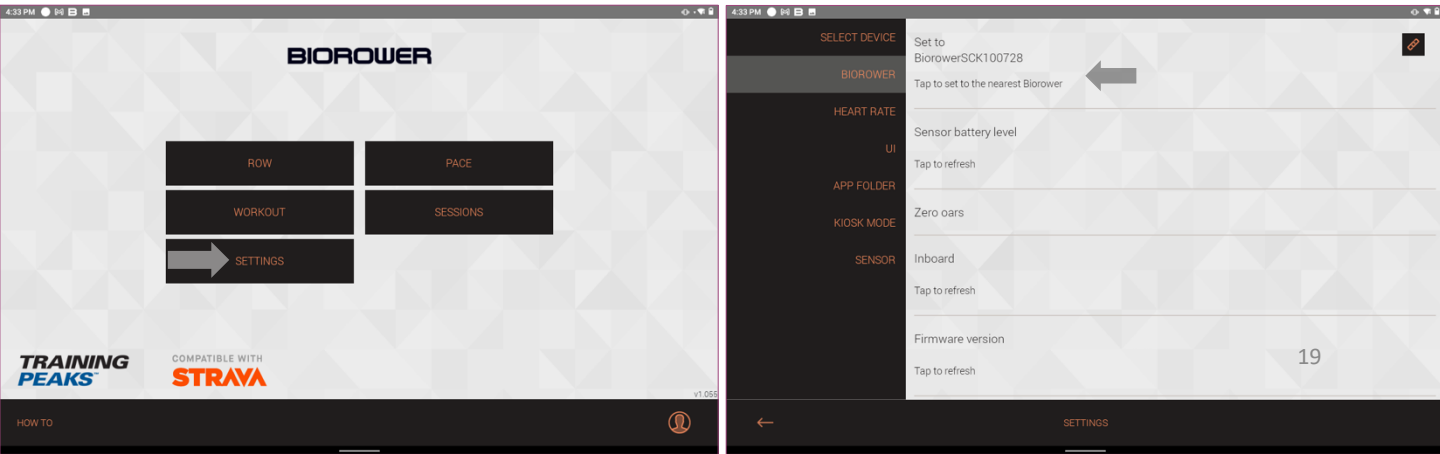


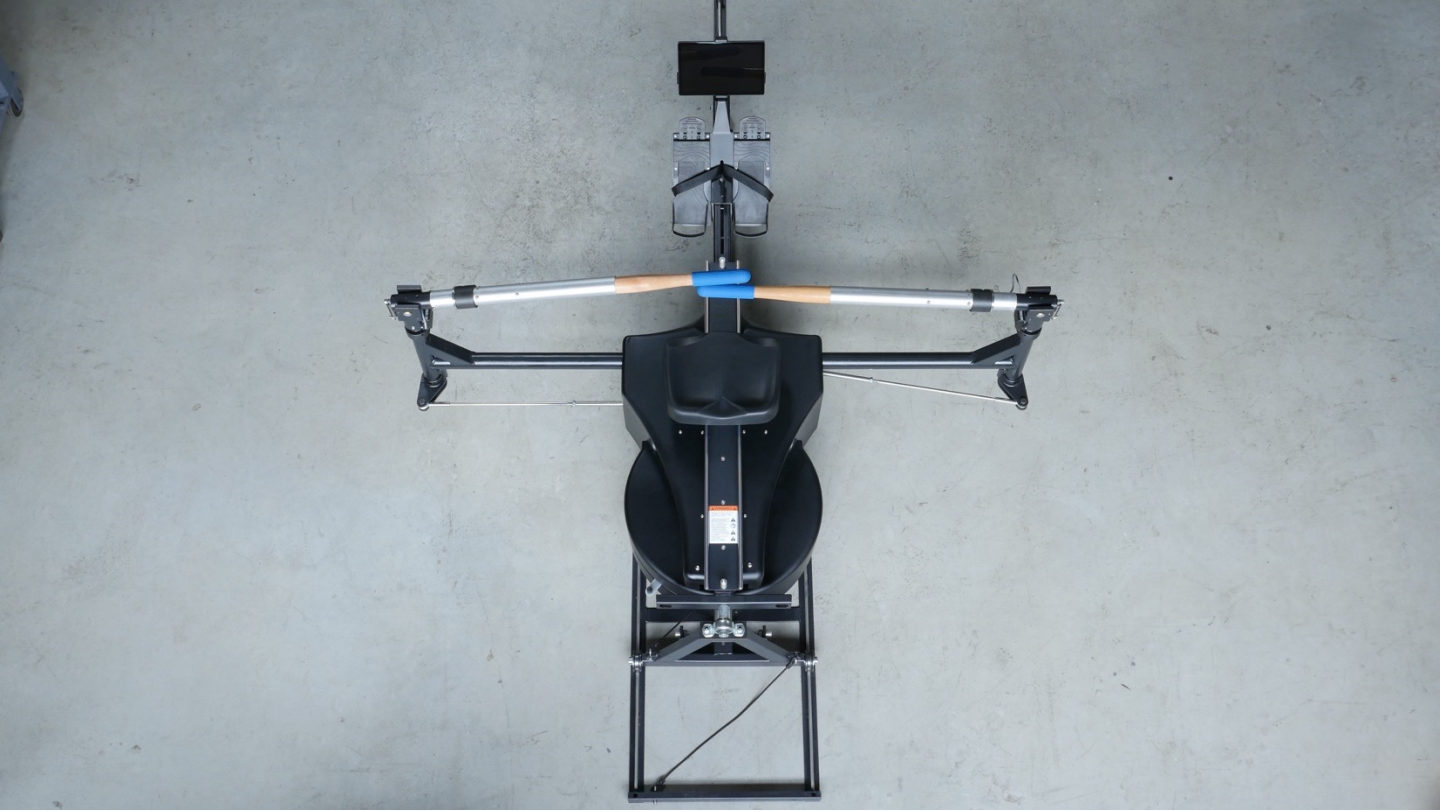
CONNECTING TABLET WITH BIOROWER

Download and install the latest BIOROWER App for Android or IOS from their respective repositories (stores). Turn on location services (GPS) and Bluetooth in the general settings. We do not know where you are, however, “location” services summarize a lot of Bluetooth specific settings we need.



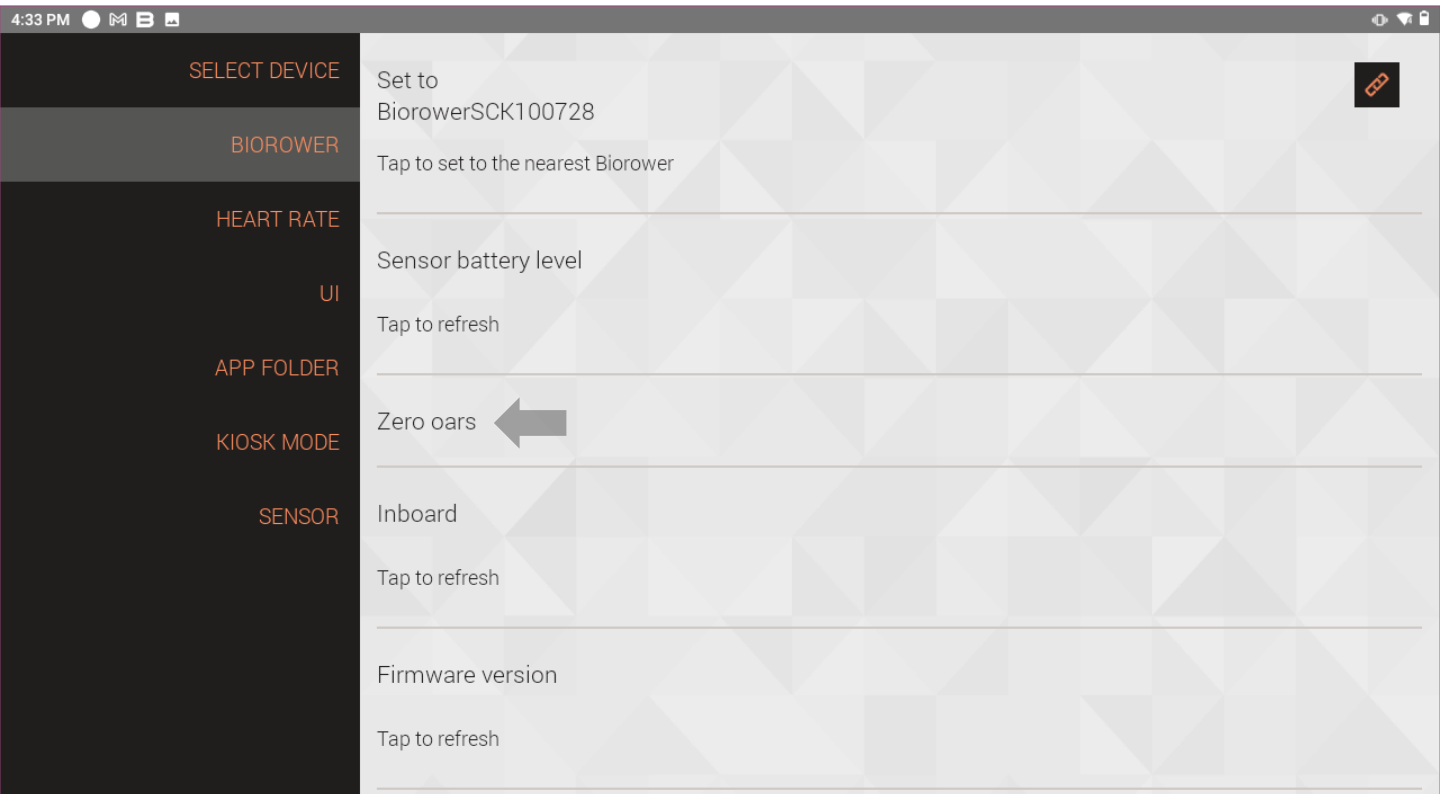
Turn on both sensors. Both oar handles should still be overlapping (initial position). Then go to SETTINGS – BIOROWER – Tap to set the nearest BIOROWER.





Once connection has been established, tap on “CONTINUE”
Zeroing oars has to be done only when connecting with a new tablet or after assembling your BIOROWER.

REMINDER! It is important that your oars are in the middle position. Your oar handles should perfectly overlap.



CHECKING BATTERY STATUS



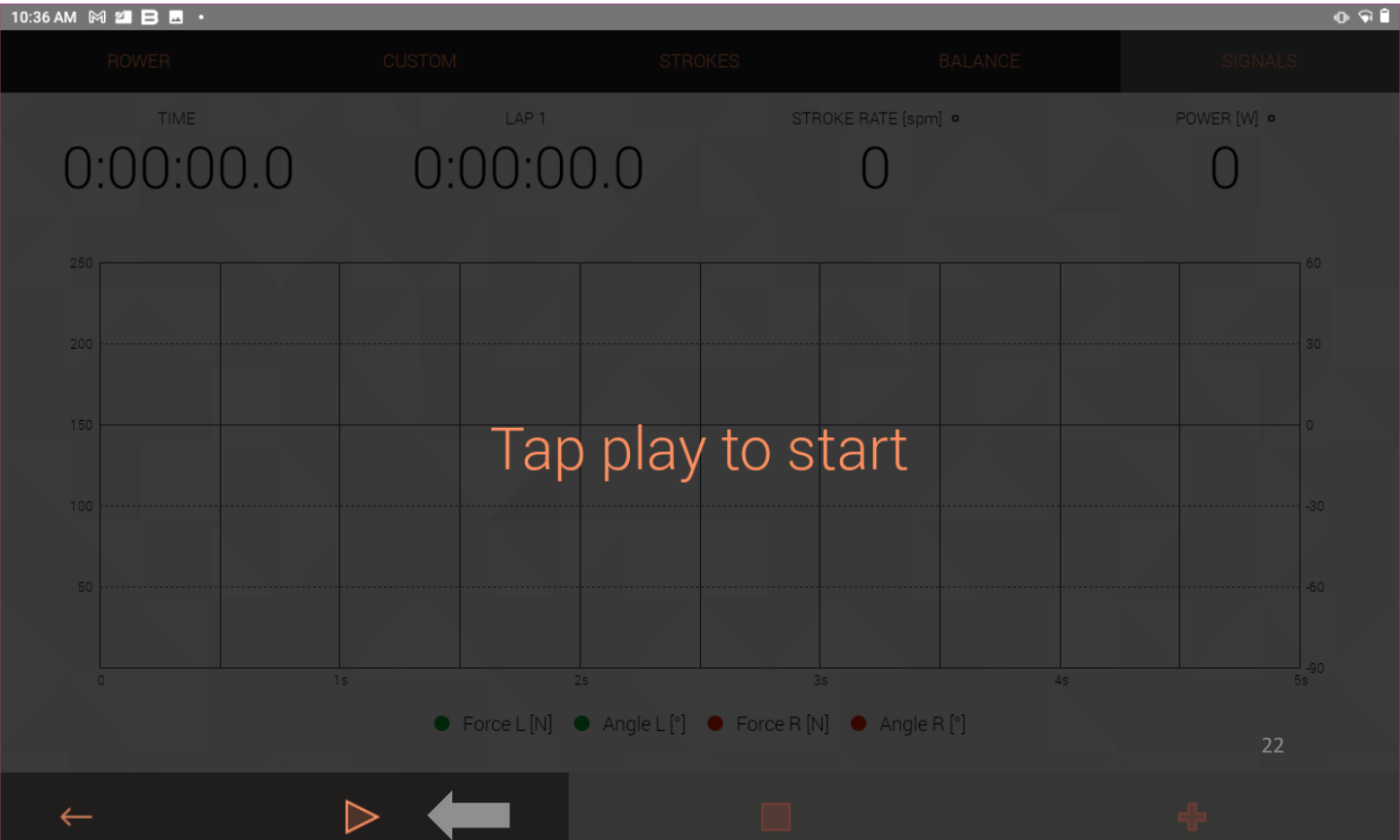
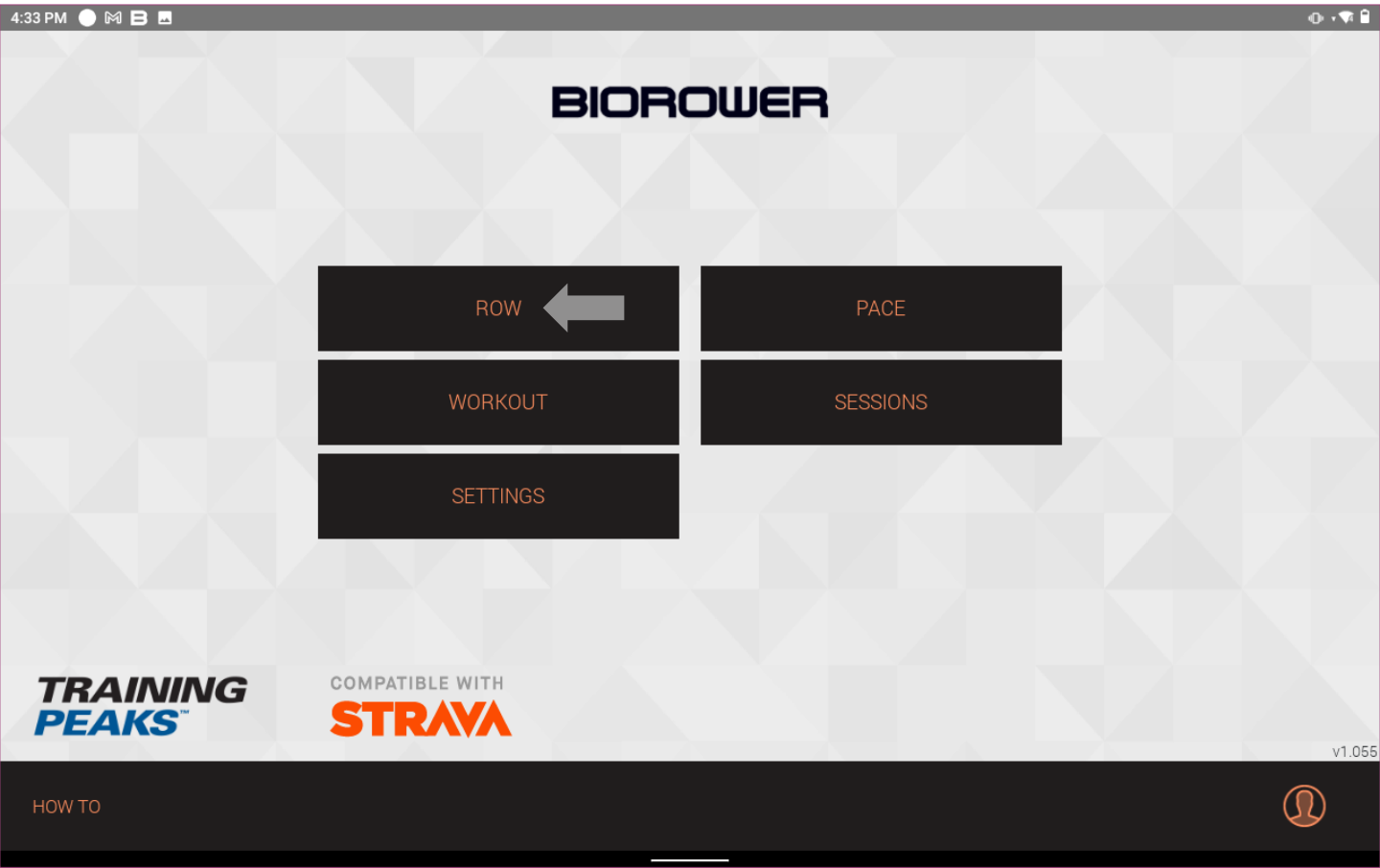
- Flashing **Green**: all good, ready to row
- Flashing **Orange**: please recharge soon
- Flashing **Red**: dead empty, please recharge now

The more precise method is to check battery level through the app, which provides precise percentage values for their charge.

Go to... SETTINGS → BIOROWER → SENSOR BATTERY LEVEL



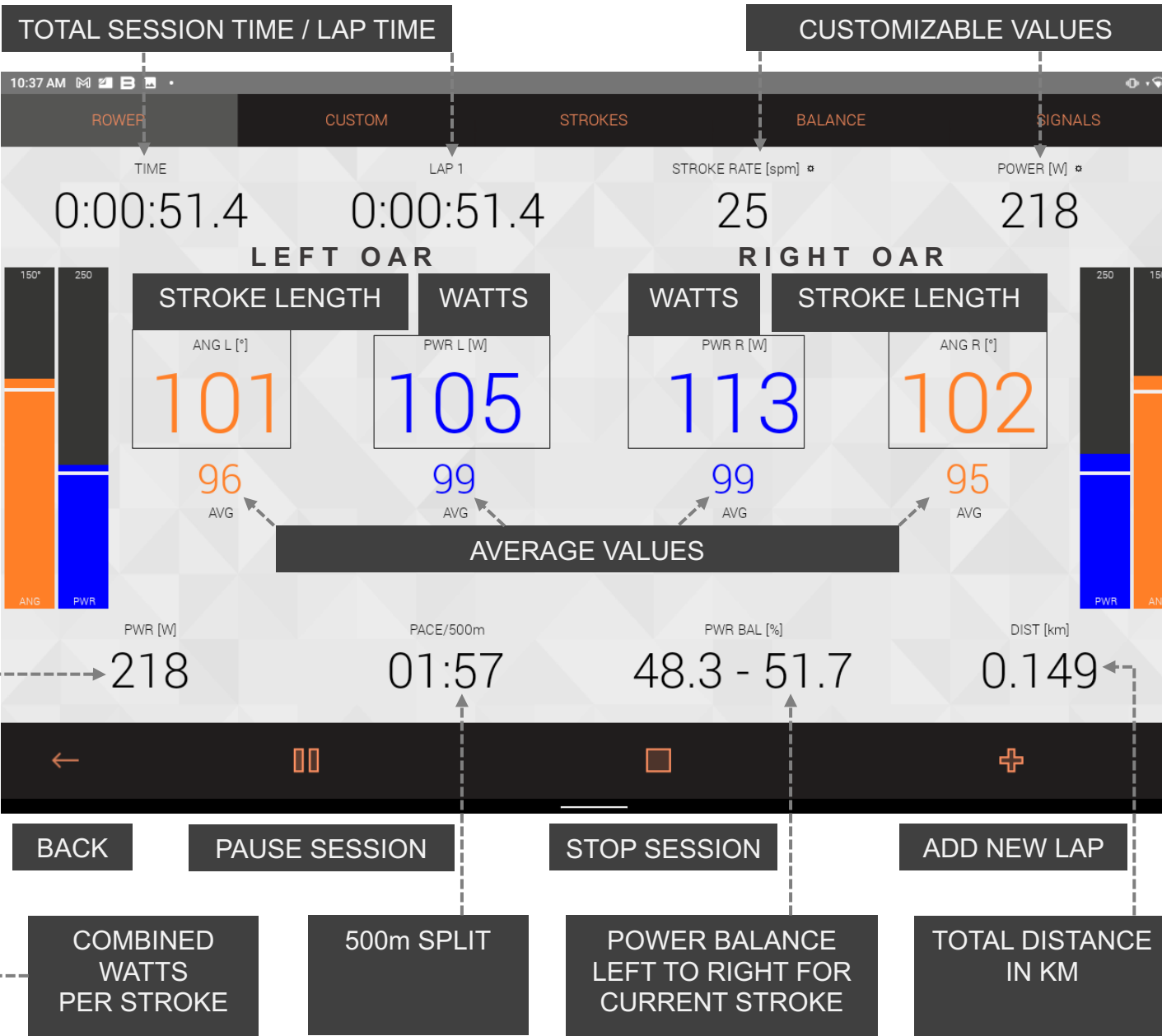
USING THE BIOROWER APP – UNDERSTANDING THE MODES



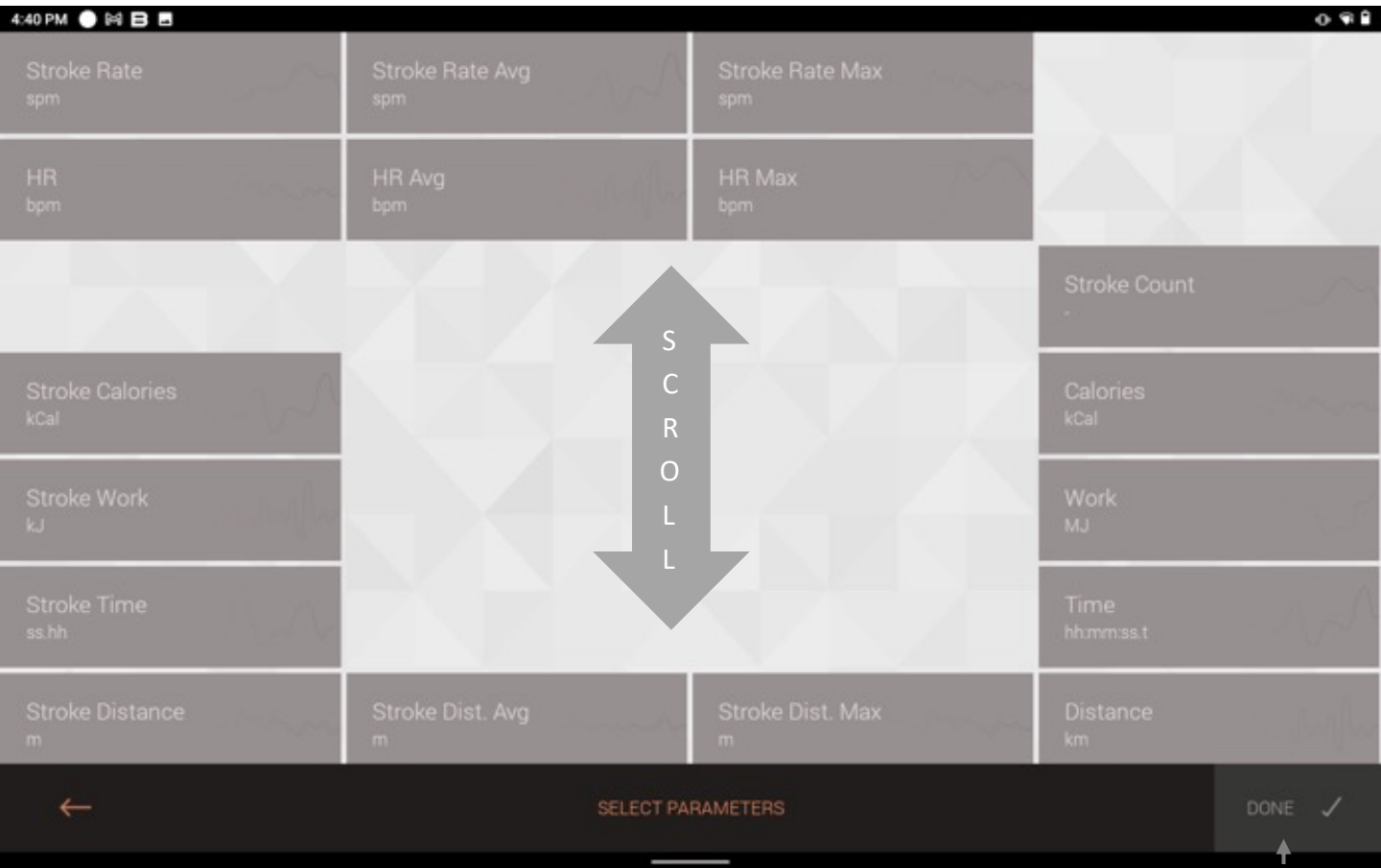
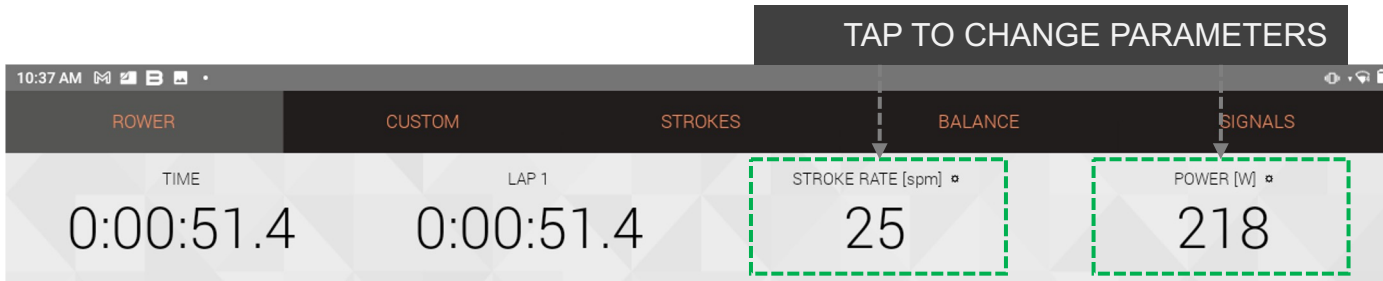
ROWER MODE

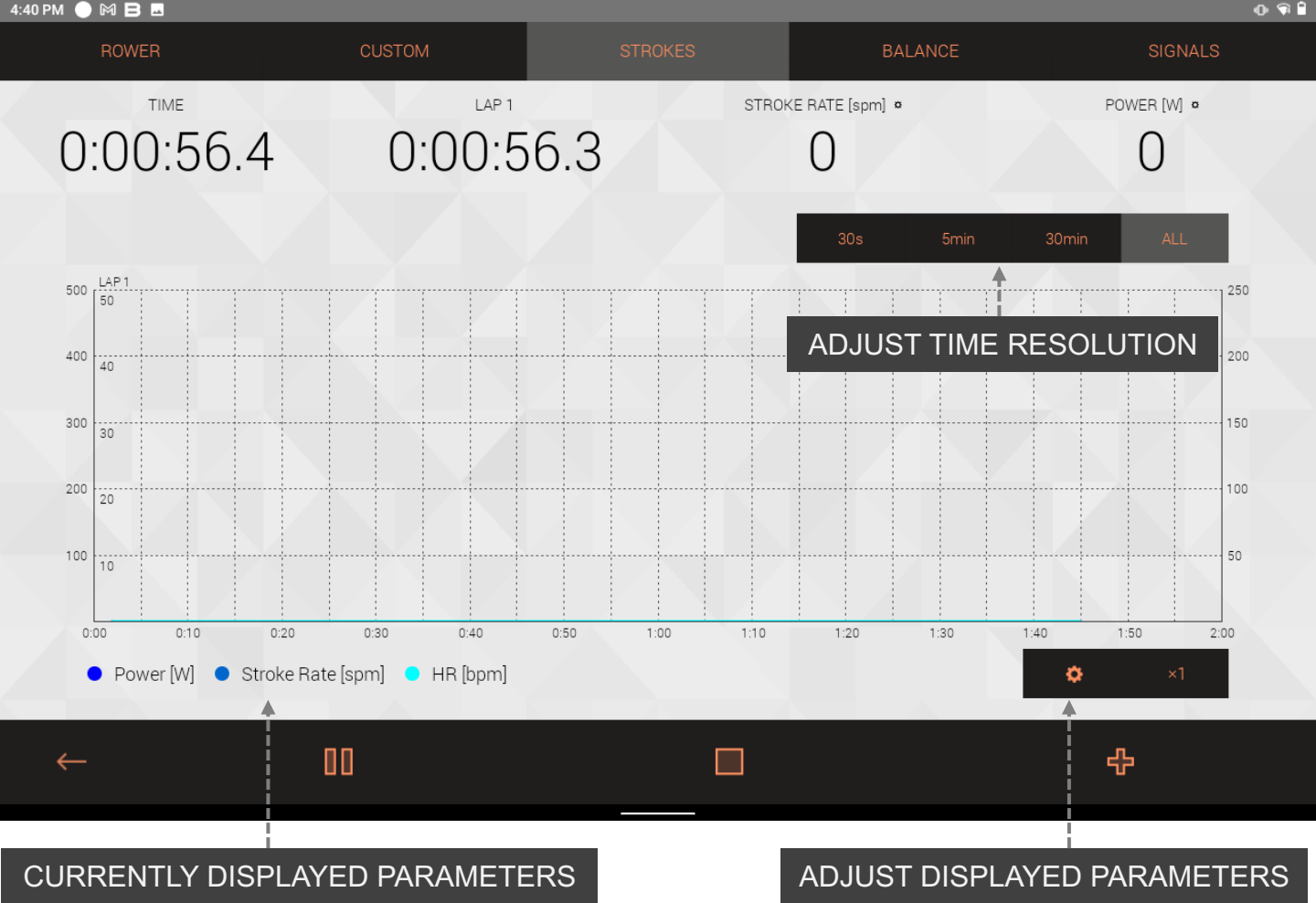
The ROWER mode is the first one we recommend to use. It has got the basic overview most rowers want: stroke length and power, each for left and right side separately as well as combined values. On top you will find the usual parameters such as 500m-split, total distance.

All screens have two customizable parameters in the top right position. Any changes to apply here will be visible on all other screens / modes as well.

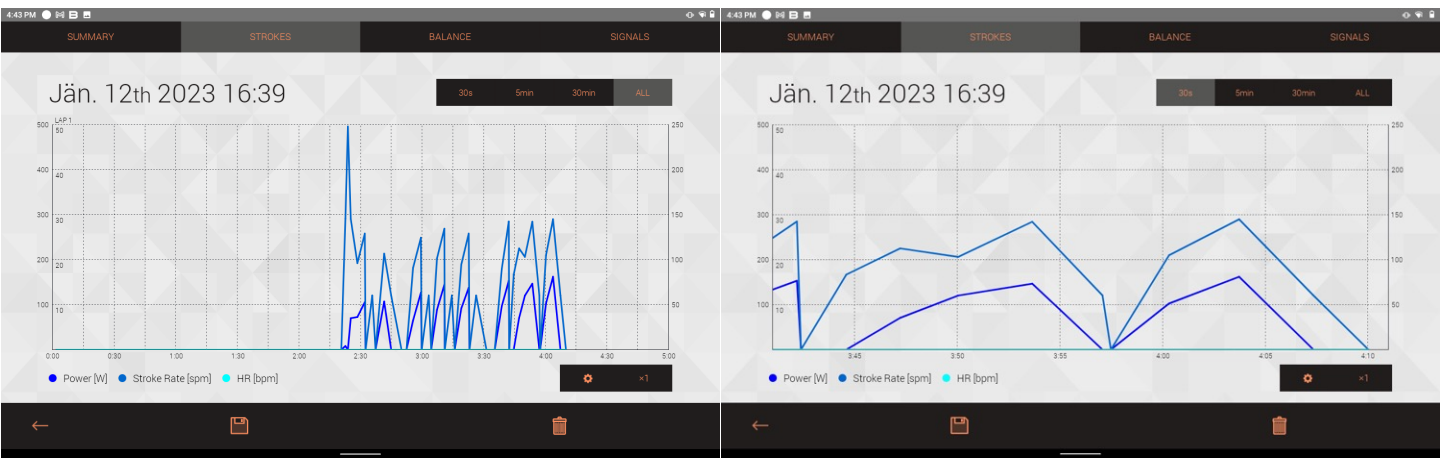


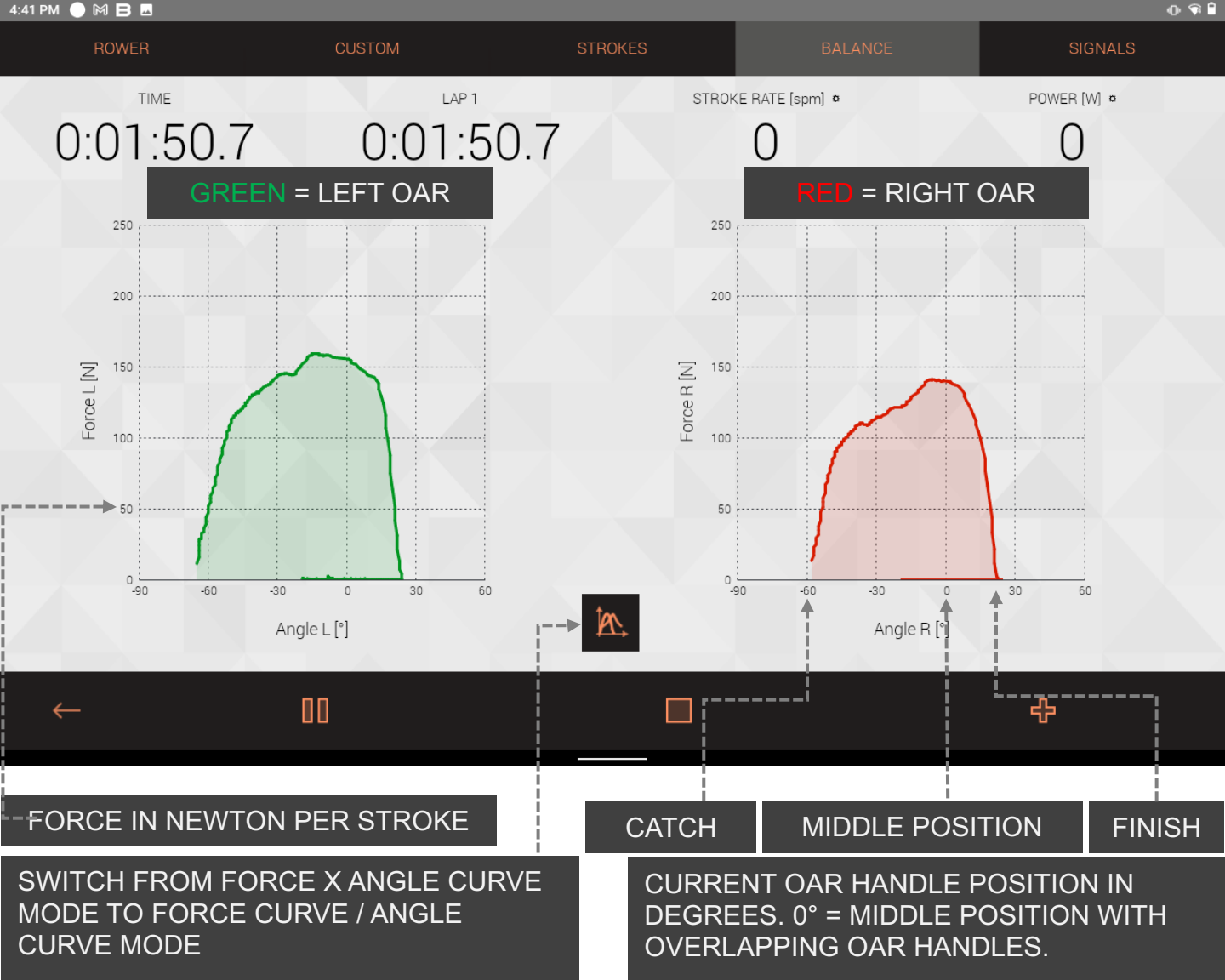
The custom screen is not yet available for IOS, but under development. The two top right parameters, however, are customizable. Changing the displayed values on one specific screen also affects all other screens. The functionality of the custom screen and the two top right customizable values is the same. Tap on one of both values to call up the menu.





This screen is also available in analysis mode. After stopping and saving a session, you can always go back to analyze the progress. All parameters are being saved during training. Even if these have not been selected in live view. Adjust the displayed parameters in post analysis just like you do in live mode.



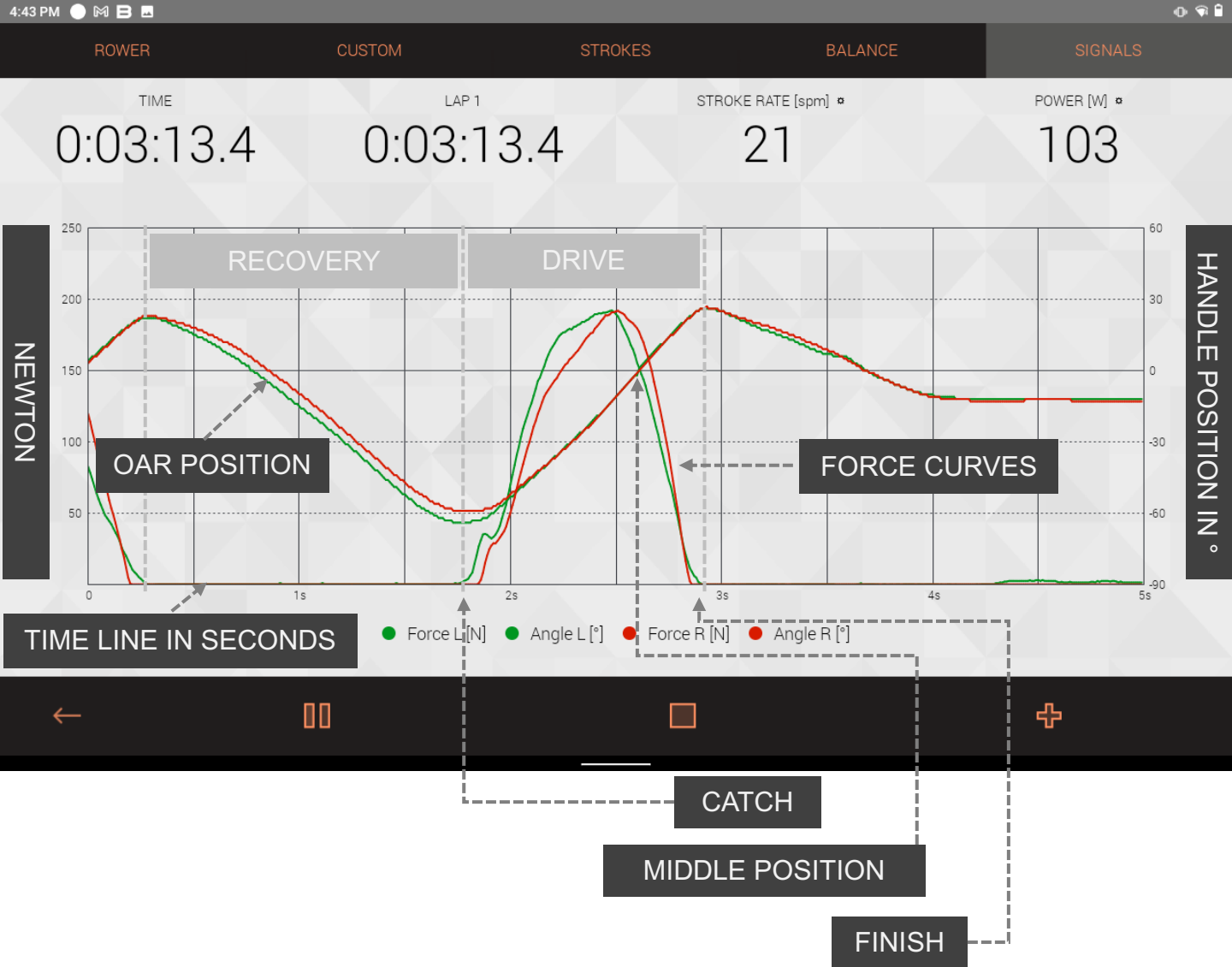


The Balance mode has two views to choose from: how much Force is applied at which position of the stroke or how much force is applied at which point of time with a separate overlaid curve for the oar handle position.

In the Force x Angle curve mode, every stroke draws a single curve for each stroke for each oar handle. The x-Axis shows the current handle position on throughout your drive phase in degrees. The y-Axis shows **how much Force is applied at which oar handle position**



The Force-Curve / Angle-Curve mode works very similarly to the Signals Mode, which is a separate screen and explained a little later in this manual. Per stroke you draw two separate curves per oar handle. One for force over time, one for the handle position over time.



The Signal Mode is the “most raw” mode you can get. Raw data from both strain gauges and angle sensors are being displayed live, as you row in form of two curves. A force curve over time and a handle position curve over time. There is a green force curve and oar position curve for the left side, and a red force curve and oar position curve for the right side.

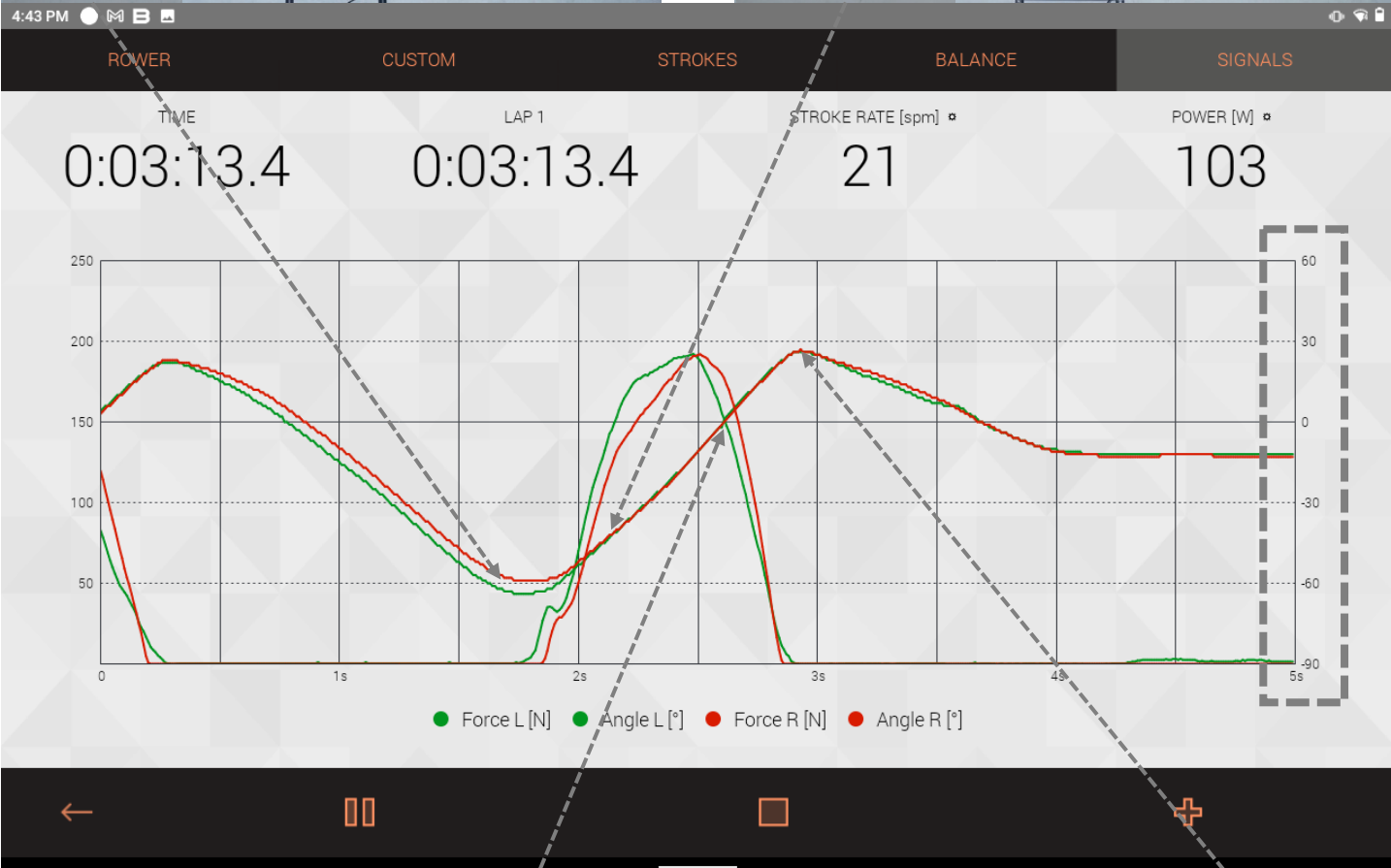
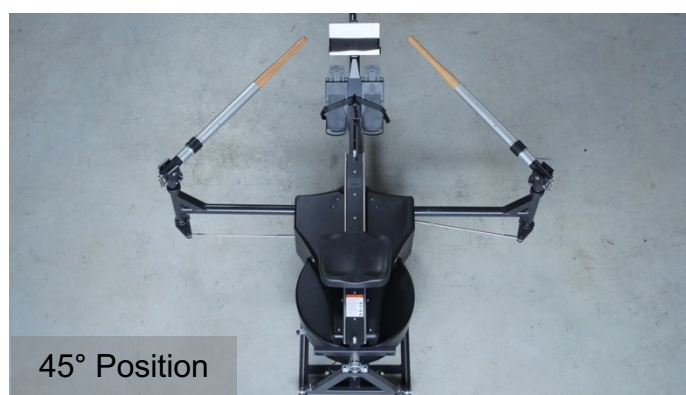
The X-Axis shows time in seconds (relevant for angle and force curve)

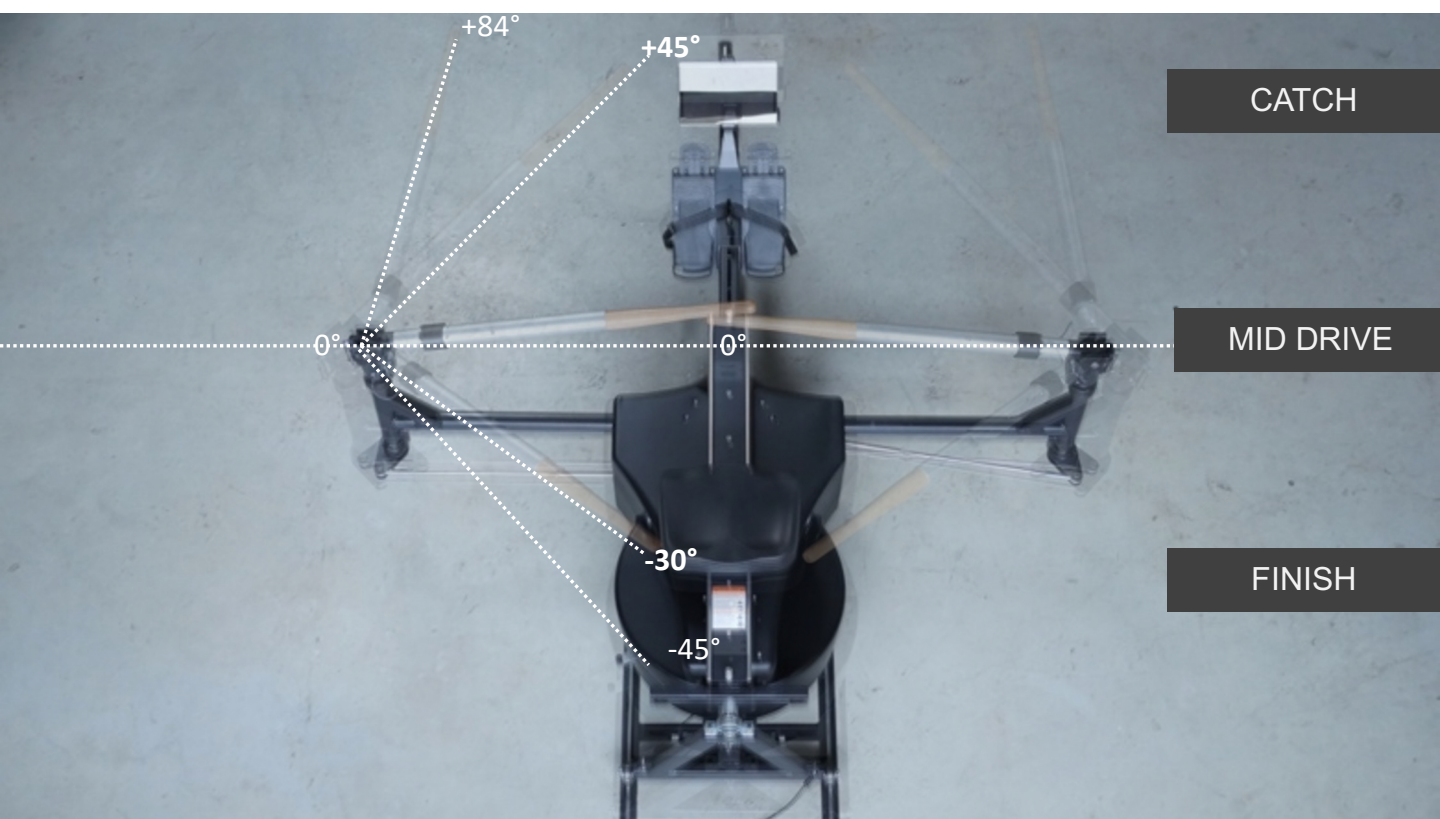
The left Y-Axis shows Force in Newton (relevant for force curves only)

The right Y-Axis shows the current oar handle position.

Green = left side (for force curve and oar position curve)

Red = right side (for force curve and oar position curve)



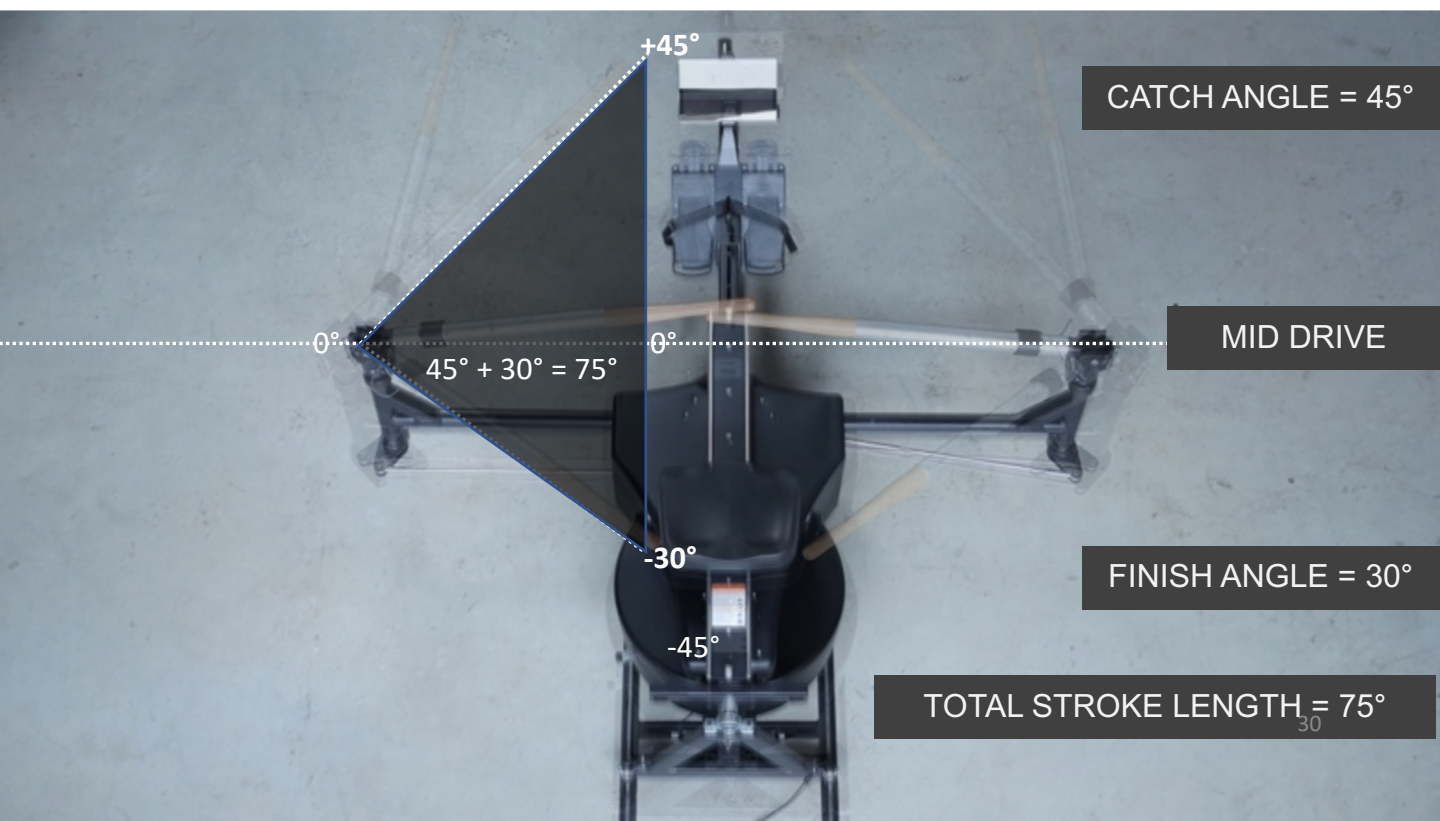


Mid drive position functions as 0° -mark. This is where your oars overlap exactly, or your sweep oar handle is exactly parallel to the outrigger.

Generally, it is better to have a shorter but more effective stroke.

Overall, we recommend to go for $90 - 120^\circ$ total stroke length for sculling, and $75^\circ - 105^\circ$ for sweep rowing.

Calculating the total stroke length demonstrated on an example:



HEART RATE SENSOR CONNECTION

SETTINGS → HEART RATE → Tap to set the nearest heart rate sensor

The BIOROWER App is compatible with most Bluetooth heart rate devices.

Trouble shooting: The more Bluetooth connections there are in the same area, the more likely it is to face connection issues. We recommend to connect your BIOROWER sensors first, then your heart rate device and then other devices such as wireless headphones.

UI (USER INTERFACE)

Go to SETTINGS → UI

This is where you adjust the countdown timer, acoustic signals

KIOSK MODE

The Kiosk Mode turns your BIOROWER App into a single shell application. This is important if a tablet / Biorower combination is used in an environment like a gym, rowing club or other facility where users should not have access to the tablet's other features.

PACE FUNCTION

The BIOROWER App comes with a pace function, which enables you to set a target split and have a reference boat chasing you.

CHANGING USER NAME / CONNECTING TO STRAVA AND TRAINING PEAKS

Tap on the bottom right user icon to change your user name.

Tap on STRAVA or TRAINING PEAKS to connect your account. Your training data will then be synched automatically.

After mounting, frequently check all outside screws, nuts and bolts for proper connection and stable fixing.

We recommend careful re-tightening of the oarlocks’ Allen socket screw after the first 5 practice session and later every 25 sessions.

It is necessary to clean all blank surfaced parts of your BIOROWER rowing machine with a slightly oil drenched towel and to re-grease them with readily available light oil such as lawn mower oil, chain saw oil or any other light industrial grease available at your local hardware store. The following maintenance and service plan must be kept in order to keep your warranty valid.

Component	Work	FREQUENCY	Component
Oar lock screws	Inspect for tight hold	Every 14 hours / Weekly	Oar lock
Oar lock bronze bushings	Replace	Every 540 hours / every 18 months	Oar lock
Oar lock springs	Replace	Every 360 hours / annually	Oar lock
Seat wheels and bearings	Inspect, clean and grease	Every 180 hours / every 6 months	Seat
Seat wheels and bearings	Replace	Every 1800 hours / every 5 years	Seat
Seat rails	Clean	After every session	Seat
Screws of seat anti-tip bars on both sides	Inspect for tight hold	Every 7 hours / every week	Seat
Seat rail limiter screws and cylinders	Inspect for tight hold and replace if needed	Every 30 hours / monthly	Seat
Seat axle clamps	Inspect for proper positioning	Every 360 hours / annually	Seat
Imbalance mechanism bolts and center piece	Inspect and replace if needed	Every 360 hours / annually	Frame
Slide frame rails	Inspect, clean and grease	After every session	Slide frame
Slide frame wheel bearings	Inspect, clean and grease	Every 60 hours / every two months	Slide frame
Slide frame wheel bearings	Replace	Every 1800 hours / every 5 years	Slide frame
Slide frame wheel axle clamps	Inspect	Every 360 hours / annually	Slide frame

Component	Work	FREQUENCY	Component
Foot stretcher clamp mechanism	Inspect for tight hold	Before every session	Foot stretchers
Foot stretcher clamp mechanism	Replace	Every 360 hours / annually	Foot stretchers
Small Transmission Inspection and Service		Every 360 hours / annually	Transmission
Main joiner frame bolts	Inspect, clean, replace if needed		
Main joiner transmission bolts	Inspect, clean, replace if needed		
Transmission frame bolts	Inspect, clean, replace if needed		
Circlips	inspect, replace if needed		
Chain locks	Inspect, clean, replace if needed		
Chains	Inspect for condition and alignment, clean, grease, replace if needed		
Chain tensioners	Adjust chain tension, inspect, clean replace if needed		
Bearings	Inspect, clean, grease		
Alignement chains AB-CD / CD-E / E-F	Inspect		
Clutch fly wheel	Inspect for noise and effortless run		
Bearing fly wheel	Inspect for noise and effortless run		
Magnet lever screw	Inspect for proper adjustment / re-adjust if needed		

Eye screws on both piston rods on both sides of it	Inspect, clean and grease	Every 30 hours / monthly	Piston rods
Eye screws on both piston rods on both sides of it	Replace	Every 360 hours / annually	Piston rods
Piston rod - rigger connection bolts	Inspect for tight hold, clean and grease	Every 60 hours / every two months	Piston rods / Outrigger
Outrigger Allen screws	Inspect for tight hold	Every 14 hours / Weekly	Outrigger
Outriggers	Inspect for positioning (fully inserted?)	Every 360 hours / annually	Outrigger
Outriggers	Inspect, clean and grease	Every 180 hours / every 6 months	Outrigger ³³

Component	Work	FREQUENCY	Component
Large Transmission Inspection and Service		Every 1800 hours / every 5 years	Transmission
Main joiner frame bolts	Inspect, clean, replace if needed		
Main joiner transmission bolts	Inspect, clean, replace if needed		
Transmission frame bolts	Inspect, clean, replace if needed		
Circlips	inspect, replace if needed		
Chain locks	Inspect, clean, replace if needed		
Chains	Inspect for condition and alignment, clean, grease, replace if needed		
Chain tensioners	Adjust chain tension, inspect, clean replace if needed		
Bearings	Inspect and replace if needed		
Alignment chains AB-CD / CD-E / E-F	Inspect		
Clutch fly wheel	Inspect and replace if needed		
Bearing fly wheel	Inspect and replace if needed		
Magnet lever screw	Inspect for proper adjustment / re-adjust if needed		
Replace main clutches	Replace		

MAINTENANCE LOG BOOK

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Information provided in this manual is subject to change without prior announcement. Please always refer to the latest version, which is available on www.biorower.com