

Activforce 2

User Guide

Product User Guide

Activforce 2 provides real-time strength and range of motion measurements to quantify client progress. Activforce 2 functions as a handheld device to provide force and angle measurement when connected to an easy-to-use mobile companion application. When combined with consistent testing techniques and methodologies, Activforce 2 provides accurate, repeatable force and range of motion measurements.

Sections

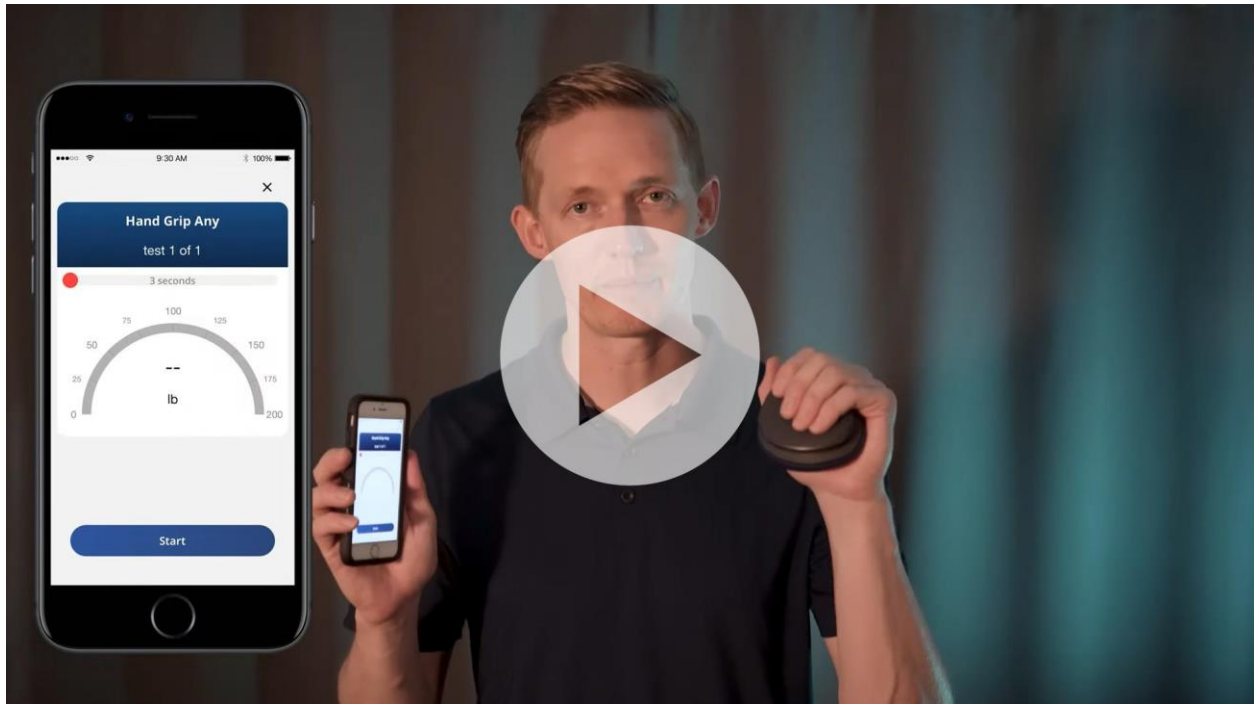
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Activforce 2 Components

- Activforce 2 Device
- Activforce 2 Mobile Application
- Activforce 2 Dashboard
- Rounded Pad

- Arched Pad
- Foam Insert
- Silicone Cover
- Hand Strap
- Leg Strap
- Belt
- Belt Loop Plate
- Custom Carrying Case

Activforce 2 Walkthrough Video



[Click to Watch]

https://youtu.be/MkWWzkP3_sM

Connecting the Device to the Mobile Application

Software Versions: iOS 1.2.5 (181) & Android 1.3.3

1. Turn on the device by pressing and holding the device button until you see a blue LED flashing.
● A BLUE flashing light indicates that the Activforce 2 device is available for a Bluetooth® connection to the companion mobile application.
2. Bluetooth needs to be turned ON for the phone or tablet. If it is OFF, the app will remind you to turn it ON.



3. In the Activforce 2 app, start a measurement or select "Connect Device" in the settings menu. A list of available devices will be shown in the app. Tap "Connect" next to your Activforce 2 device in the list.
4. When the Bluetooth connection is established, the device LED will flash green periodically.
● A GREEN flashing light indicates the Activforce 2 device is connected to the companion mobile application.
5. The app offers two main types of tests and associated reports:
 - Force Measurements: Strength tests with left and right side options that report measurements in pounds, kilograms, or Newtons.
 - Range of Motion Measurements: Active and passive options to obtain angle measurements in 3D space.
 - A Settings menu is available to set test parameters such as test duration, number of tests, and measurement units. A "Contact Us" page is also available to send a message to Activbody Customer Support.
6. Turn off the device by pressing and holding the button until you see a red LED blink.
● Multiple RED continuous flashing lights indicate a low battery charge level and the battery needs replacement. A single RED flash indicates that the device has been turned off.

Note: Always start the app and pair the device through the in-app "Connect" dialog in the app. Pairing the device through your mobile device's Settings screen without pairing in the app will result in an error. If a pairing error occurs: close the app, turn off Bluetooth in your device's Settings, turn Bluetooth back on, and pair the device again through the app.

Using the Activforce 2 Mobile Application

Downloading the Application

Download the Activforce 2 mobile application from the Apple or Google Play Store



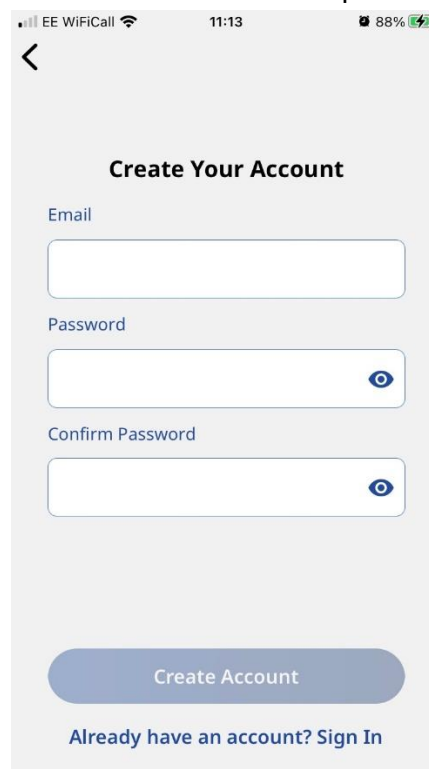
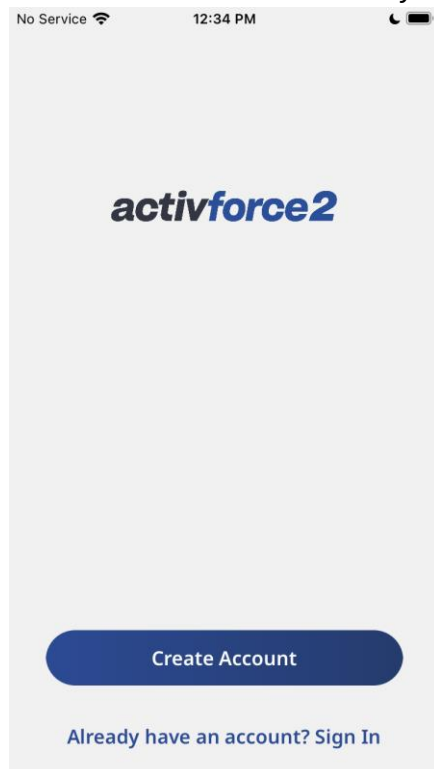
[Image: App store buttons]

Apple App Store: [Activforce 2 on the App Store](#)

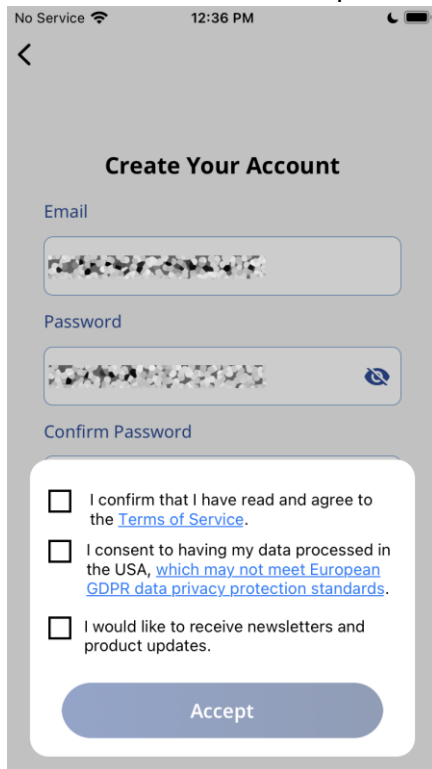
Google Play Store: [Activforce 2 on Google Play](#)

Creating an Account

If you're using Activforce 2 for the first time and don't have an account, press Create Account and on the next screen enter your email address and create a password.



Review and accept the terms and conditions as well as the privacy agreement. Choose to opt in or out of newsletters and product updates. Tap Accept to start account activation.



No Service 12:36 PM

<

Create Your Account

Email

Password

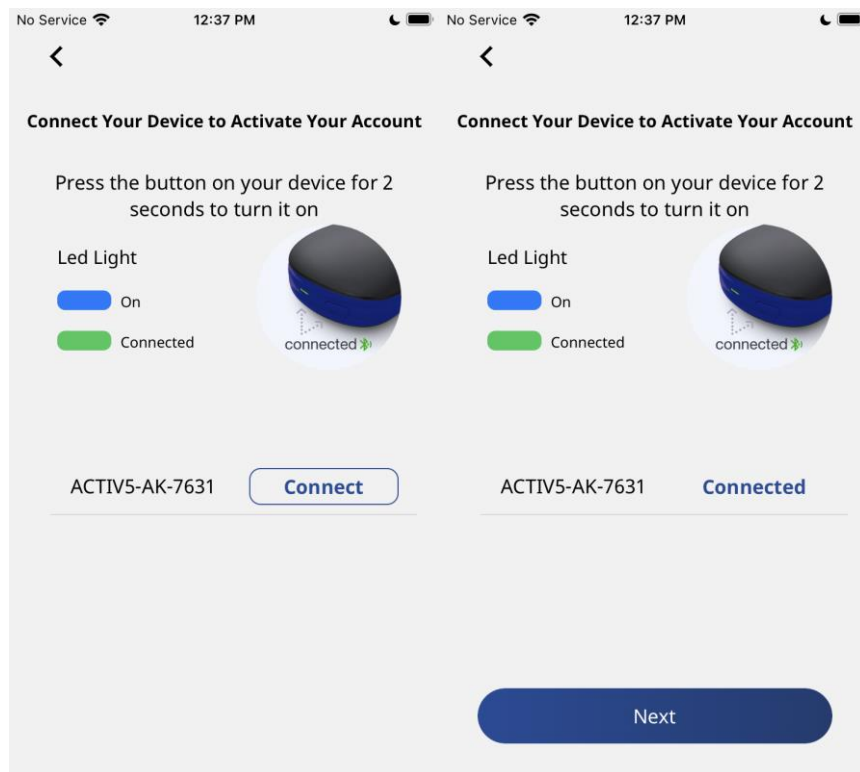
Confirm Password

- ☐ I confirm that I have read and agree to the [Terms of Service](#).
- ☐ I consent to having my data processed in the USA, [which may not meet European GDPR data privacy protection standards](#).
- ☐ I would like to receive newsletters and product updates.

Accept

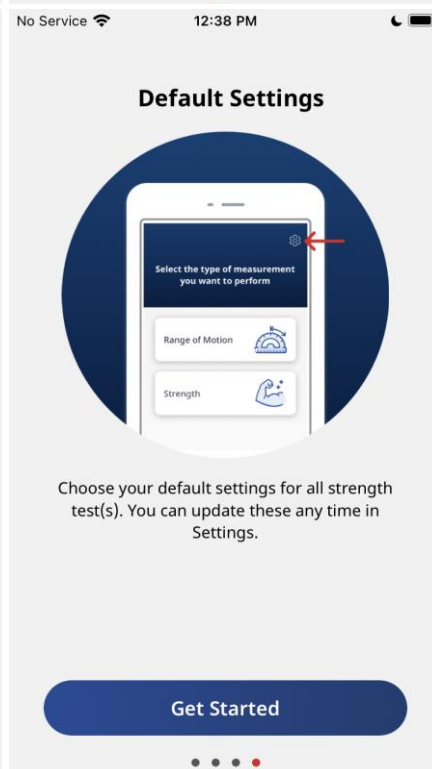
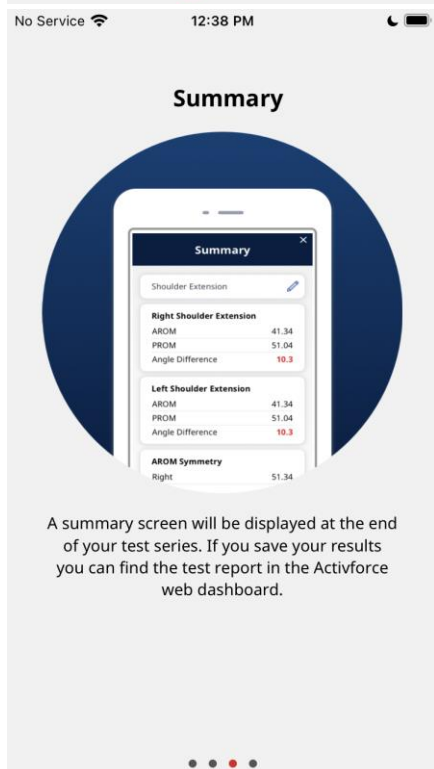
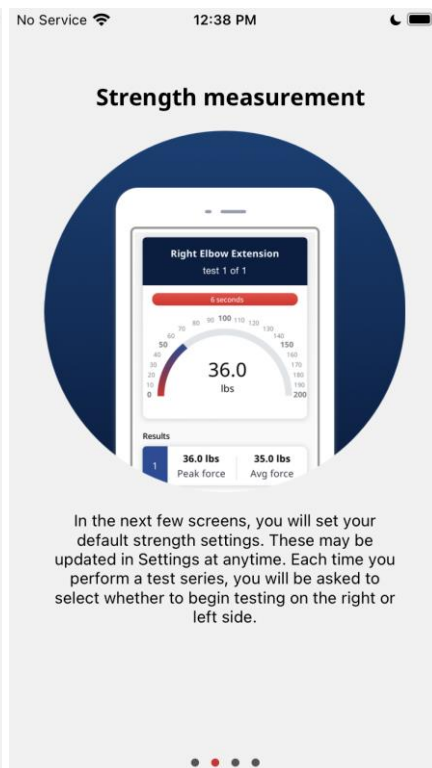
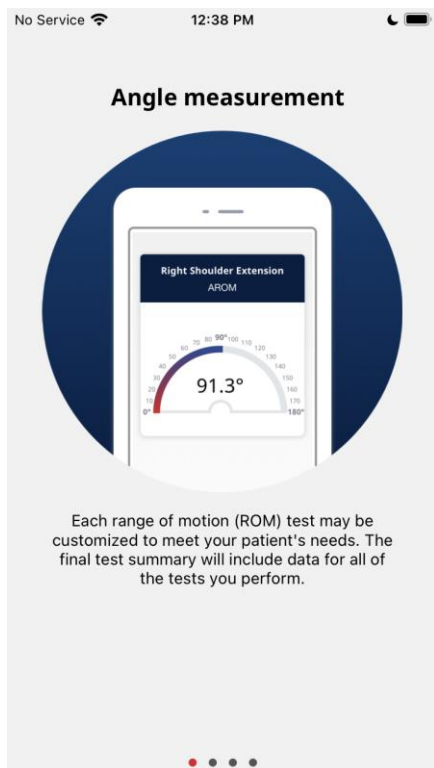
An Activforce 2 device is required for this step.

When you connect the Activforce 2 via Bluetooth from the Activforce 2 app **and not** from your mobile device Bluetooth settings , your account will be activated. This step requires your mobile device's Bluetooth to be on and may require Location services to be on. Bluetooth is mandatory while Location services are optional for Android versions (12 and 13), and mandatory for older versions (under 12).



First-time Tutorial

The next three screens will walk you through the use of the main features of the app (angle measurement, strength measurement, summary screen). The fourth screen concludes the tutorial and prompts you to select your default settings for the app.

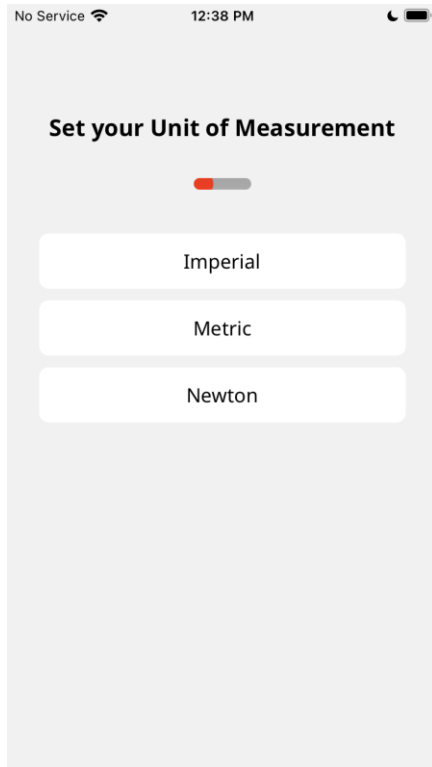


Selecting Default Settings

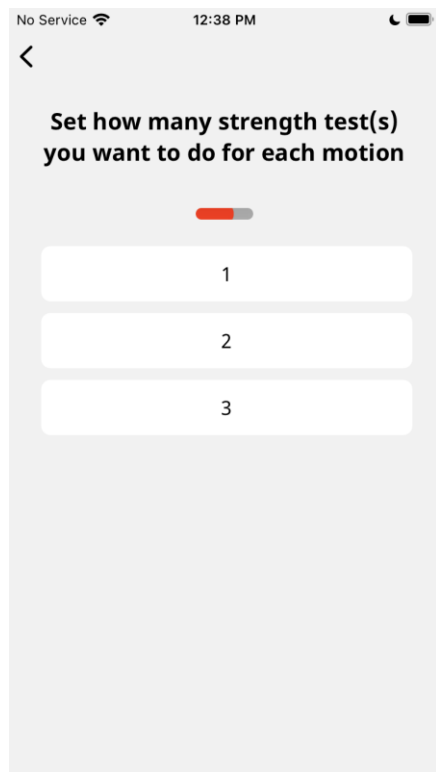
If it is your first time using the app, you will be prompted to select default settings for the app. These can be updated any time in the Settings menu.

First, set your Country or Region.

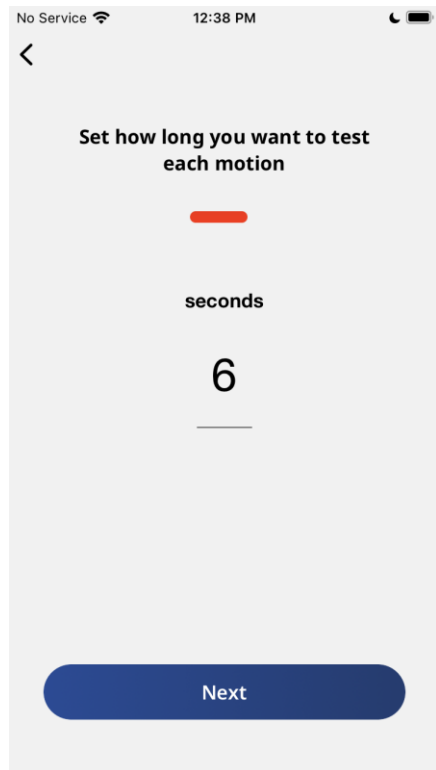
Second, set your preferred unit of measurement: Imperial (lb), Metric (kg), Newton (N).



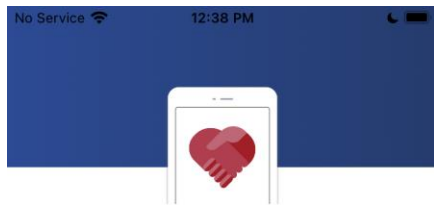
Next, set the number of strength tests you want to do for each motion.



Next, set the duration of time (in seconds) for each strength test.



Finally, the app will ask you if you would like to allow the sharing of anonymous data to help improve Activforce 2.



Share data

Activforce 2 would like to collect **anonymous data** to help improve our product. We are HIPAA compliant and will not ask for any identifiable patient data. No patient data will be shared.

Allow

[Not Now](#)

Signing In

If you already have an Activforce 2 account, enter your email address and password to sign in. If you don't remember your password, click on the "Forgot Password?" link.

No Service 12:34 PM

<

Sign In

Email

Password

[Forgot password?](#)

Sign In

Create Account

No Service 12:34 PM

Settings

activforce2

Connect your device to start
your measurement tests

Connect device

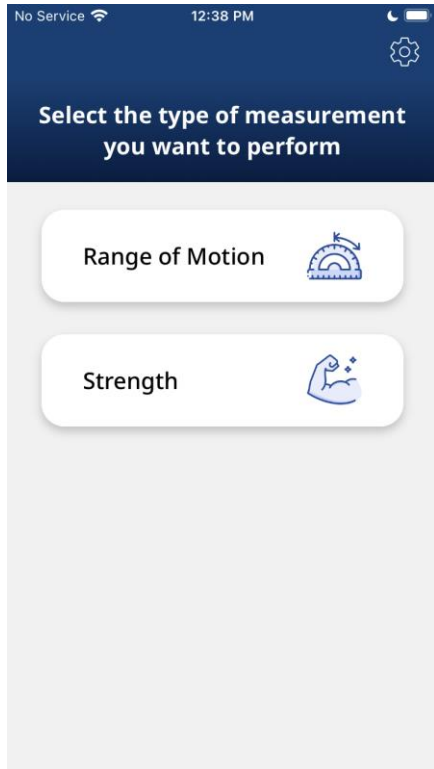
ACTIV5-AK-7631

Connect

Close

Home Screen

Upon signing in, you will see the Activforce 2 home screen. Choose the type of measurement you want to perform: Range of Motion or Strength.



Range of Motion Measurements

The Activforce 2 app can obtain angle measurements in 3D space from a starting position that is established during the calibration phase. Two types of Range of Motion (ROM) measurement can be conducted: Active Range of Motion (AROM) and Passive Range of Motion (PROM).

After selecting Range of Motion from the Home Screen, you can choose to perform an "Active Range of Motion" test, "Passive Range of Motion" test or "Both". Selecting "Both" will perform an AROM test, followed by a PROM test.

The screenshot shows a mobile application interface. At the top, a dark blue header bar contains the status "No Service" with a Wi-Fi icon, the time "12:39 PM", and a battery level icon. Below the header is a white navigation bar with a back arrow icon. The main content area has a light gray background and features the instruction "Select which range of motion you would like to test" in bold black text. Below this instruction are three white, rounded rectangular buttons stacked vertically: "Active Range of Motion", "Passive Range of Motion", and "Both".

The app allows you to customize your test by selecting which side(s) to test - Right, Left, Both or N/A (if no side is applicable).

A screenshot of a mobile application interface. At the top, a dark blue header bar contains the text "No Service" with a Wi-Fi icon, the time "12:39 PM", and a battery icon. Below the header is a white navigation bar with a back arrow icon. The main content area has a light gray background and features the heading "Select the side you want to test" in bold black text. Underneath the heading are four white, rounded rectangular buttons stacked vertically, labeled "Right", "Left", "Both", and "N/A".

If “Both” is selected, you will be asked to select which side to test first. This selection will be applied to all test types previously selected.

No Service 12:44 PM

<

Select the side you want to test first

Right

Left

N/A

Before the test is started, the test can be named either manually or by selecting suggested joints, movements and positions. The test naming can also be skipped by tapping the “Skip” button at the top right corner.

EE 4G 13:08 56%

< Skip

Name your test

Test Name

example: Shoulder Flexion

Ankle Cervical Elbow

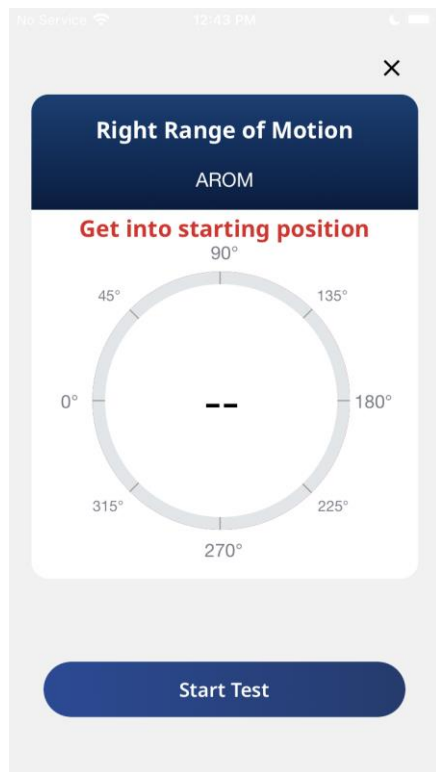
Finger MCP Foot MTP Hand

Hip Knee Lumbar

Shoulder Thumb MCP Wrist

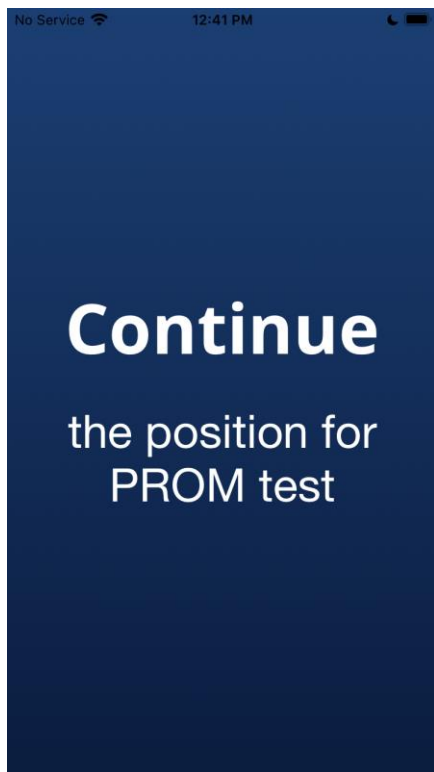
Next

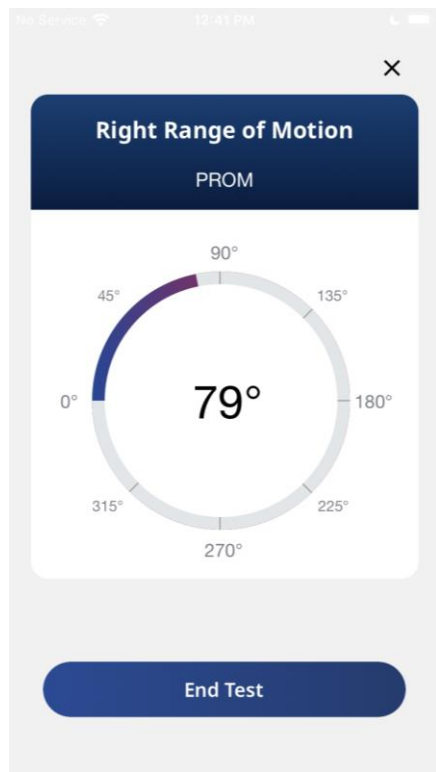
Upon reaching the test screen, you can start the ROM measurement by tapping the “Start Test” button. After pressing the “Start Test” button, a short calibration phase will commence. Do not press or move the device during the calibration phase.



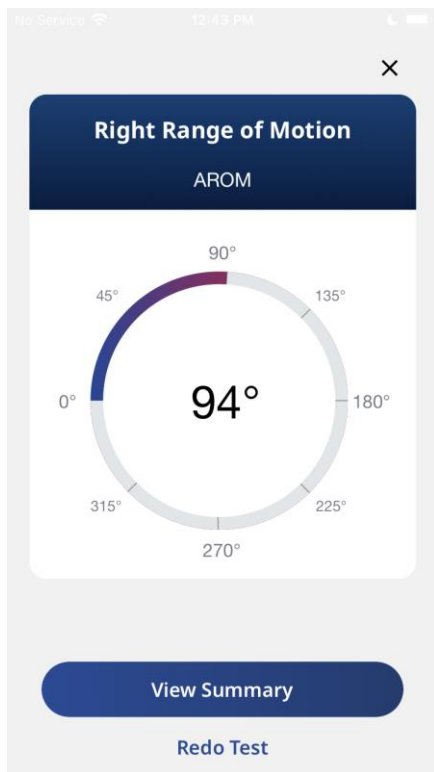
The Activforce 2 device is capable of measuring angles in any of the three axes, but only one angle, in a single plane of motion, should be measured for each test.

If more types of measurements or sides are selected, the app will display instructions to prepare for the next test in the sequence (Switch the side or Continue with the position). After the measurement is concluded, tap the “End Test” button.





Once the “End Test” button is pressed, you have two options: to either see the test results by tapping on the “View Summary” button or to perform the last measurement again by tapping “Redo Test”, which will discard the previous result and restart the measurement process. Tapping the "Save and Exit" button will save the report to the signed in account to be accessed from the Activforce 2 Dashboard. Taping the "X" close button will not save the report and it will not be accessible from this account's Activforce 2 Dashboard.



No Service 12:42 PM

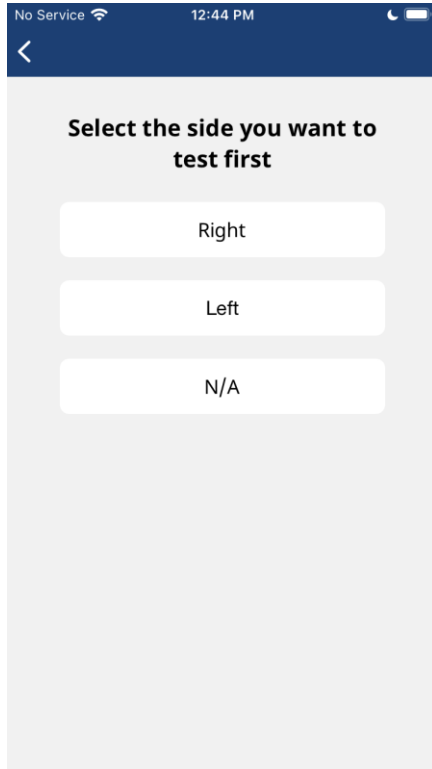
✕

Summary

Range of Motion 	
Right Range of Motion	
AROM	82.02°
PROM	80.18°
Angle Difference	1.84°
Percentage Difference	2.27%
Left Range of Motion	
Email Summary	
Add Measurement	

Strength measurements

To perform a strength test, select the “Strength” button on the home screen. On the next screen, select which side to test first - Right, Left or N/A (if no side is applicable).

A screenshot of a mobile application interface. At the top, a dark blue header bar contains a white back arrow on the left, the text "No Service" with a Wi-Fi icon, the time "12:44 PM", and a battery icon on the right. Below the header, the main content area has a light gray background. It features the instruction "Select the side you want to test first" in bold black text. Underneath this instruction are three white, rounded rectangular buttons stacked vertically, labeled "Right", "Left", and "N/A" from top to bottom.

Before the test is started, the test can be named either manually or by selecting suggested joints, movements and positions. The test naming can also be skipped by tapping the “Skip” button at the top right corner.

EE 4G 13:08 56%

< Skip

Name your test

Test Name

example: Shoulder Flexion

Ankle Cervical Elbow

Finger MCP Foot MTP Hand

Hip Knee Lumbar

Shoulder Thumb MCP Wrist

Next

Once you reach the test screen, you can start the Strength measurement by tapping the “Start” button. A three second calibration phase will commence. Do not press or move the device during calibration.

No Service 12:46 PM

×

Strength Test

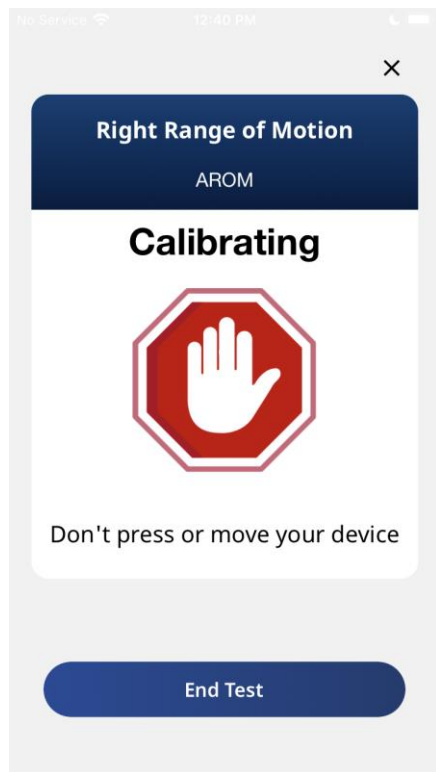
test 1 of 1

3 seconds

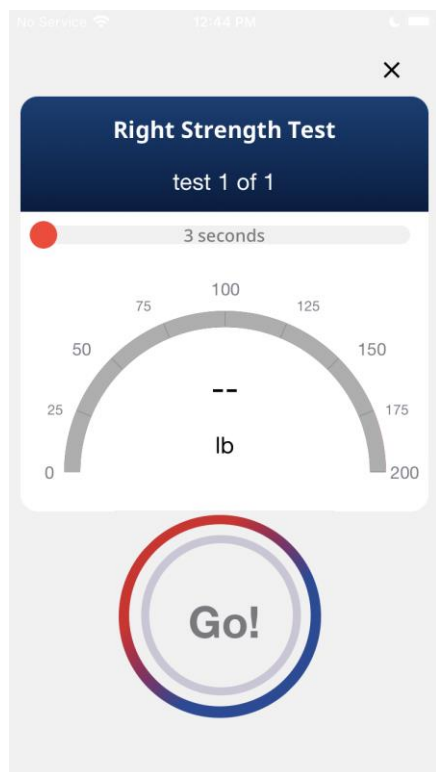
0 25 50 75 100 125 150 175 200

lb

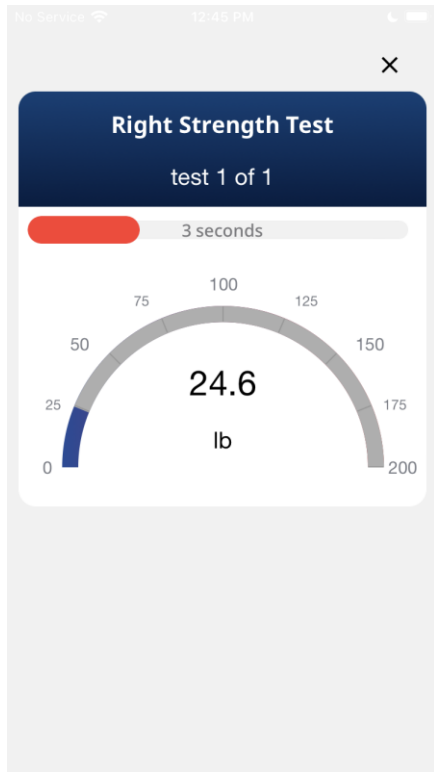
Start



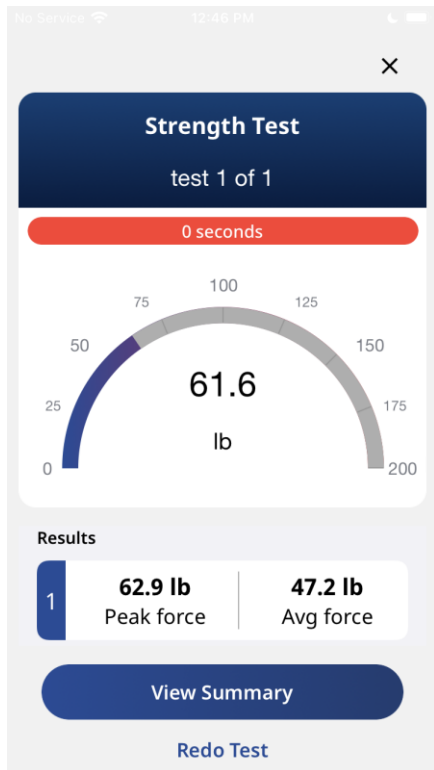
After calibration, a “Go!” label will be shown, indicating that the test can be started by applying force to the device.



Once the test is started, force applied to the device will be displayed in the app.



The duration of the test depends on the predefined settings set in the “Settings” screen (defaulted to six seconds). After the test is completed, the app will present a choice: continue with the test and switch to the next side by tapping “Next Side” or perform the measurement again by tapping “Redo Test” which will discard the previous result and restart the measurement process.



When the “Next Side” button is pressed, the app will display instructions to prepare for the next test and side in the sequence (Switch the side).



When the last test in the sequence has been completed, you will have two options - see the test results by tapping on the “View Summary” button or perform the last measurement again by tapping “Redo Test” which will discard the previous result and restart the measurement process.



Settings screen

The “Settings” screen allows you to connect a device, calibrate the device, change the strength and account settings, contact customer support, and log out.

1) The strength settings can be customized in four different ways - Force Unit of Measurement, Weight Unit of Measurement, Number of Tests and Test Duration. The settings can be changed by tapping on the “Strength Settings” button.

- Force Unit of Measurement - Changing the unit of measurement affects the units displayed in the application. You can select between Imperial, Metric and Newton units.
- Weight Unit of Measurement - Changing the weight unit of measurement affects the units displayed during the calculation for Force to Weight percentage. You can select between Imperial and Metric units.
- Number of Tests - This setting allows you to set the number of measurements for each test. You can choose between one and three tests per side.

- Test Duration - This setting allows you to choose the duration of the strength test. You can choose between three and sixty seconds.

2) To tare your device and ensure that the Strength test measurement starts from zero, tap the “Calibrate your device” button and follow the instructions displayed.

3) Contact Activbody support by tapping the “Contact Us” button.

4) Log out from the current Activforce 2 account by tapping the “Logout” button. After signing out, the app returns to the welcome screen where you can sign in again.

Using the Activforce 2 Reports Dashboard

The Activforce 2 dashboard, available at <https://activforce.activbody.com>, displays saved force and angle measurement test reports. Reports are saved to the dashboard when you use the “Save and Exit” button. Sign in to the Activforce 2 dashboard with the same email and password used in the Activforce 2 mobile app to view the summary reports.

You can search reports by test protocols, or by a client’s id if you entered it in the name of the test protocol ie. see below in Hand Grip 001.

activforce2

michael.price@activbody.com | Sign Out ↗

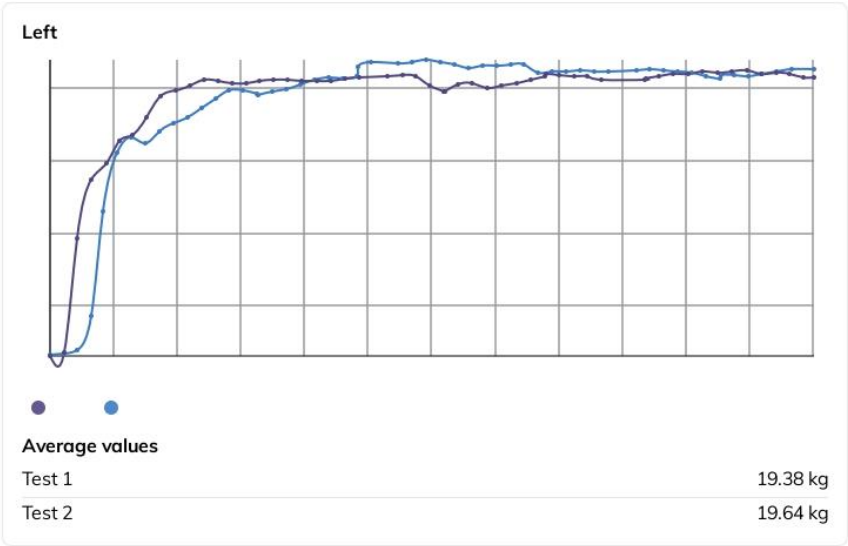
Latest Reports

Search Reports

Date created	Name	Actions
08/02/2023 09:11	Hand Grip, Hand	Full Report Patient Report
26/01/2023 15:32	chest press	Full Report Patient Report
25/01/2023 11:51	Hand Grip 001	Full Report Patient Report
26/01/2023		

You can either view, download or print the two types of reports, the Full Report or Patient Report.

Full Report



Peak Force (kg)	
Right	23.78 kg
Left	21.95 kg
Strength Difference	1.84 kg
Percentage Difference	8.03%

Shoulder extension

AROM Symmetry	
Right	224.08°
Left	205.08°
Angle Difference	19.01°
Percentage Difference	8.86%

Patient Report



Patient Report

11/23/22
12:09 PM

Hand Grip

Peak Force (kg)

Right	30.57 kg
Left	21.85 kg
Strength Difference	8.72 kg
Percentage Difference	33.26%

Hand Grip

Force to Weight Ratio

Patient's Weight	72 kg
Right	42.45%
Left	30.34%
F/W Difference	12.11%

Shoulder Extension Standing

AROM Symmetry

Right	160.94°
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* Studies show that a strength report deficit at or above 10% increases the risk of re-injury.

Attaching a Pad To The Device

The locking mechanism is a circle with four wide gaps that securely hold attachments in place through a twist lock mechanism. To secure an attachment to the Activforce 2 device:

- (1) Align the attachment teeth with the locking mechanism gaps
- (2) Push the attachment teeth down into the gaps
- (3) Twist the attachment clockwise (toward the locked symbol) a full quarter turn
- (4) When locked, the attachment will remain in place



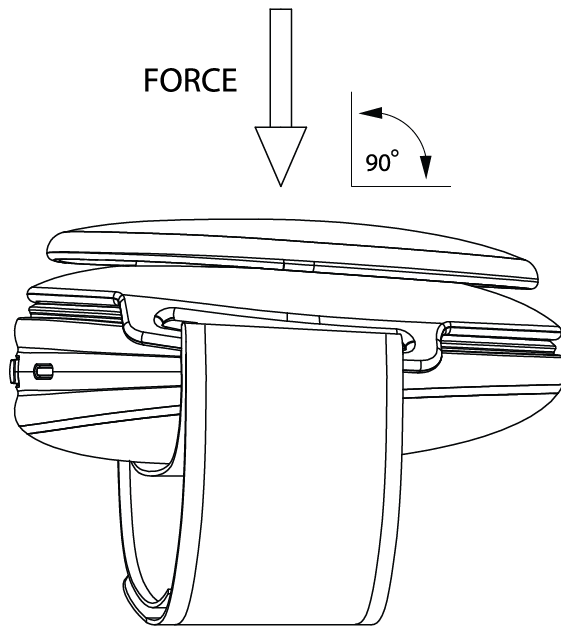
To release the attachment, twist the attachment counter-clockwise (toward the unlocked symbol) and lift the teeth out of the locking mechanism.

Proper Usage of the Activforce 2 Device

Measuring Force

The Activforce 2 device measures accurately when force is applied in a perpendicular direction to the large surface areas of the device or an attached pad. Application of the force should be in the center of the surface as much as possible. Direct all force into the device directly perpendicular through the device center point.

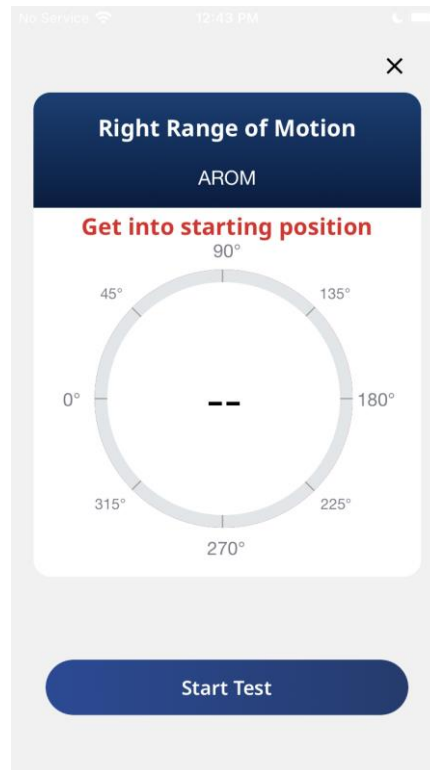
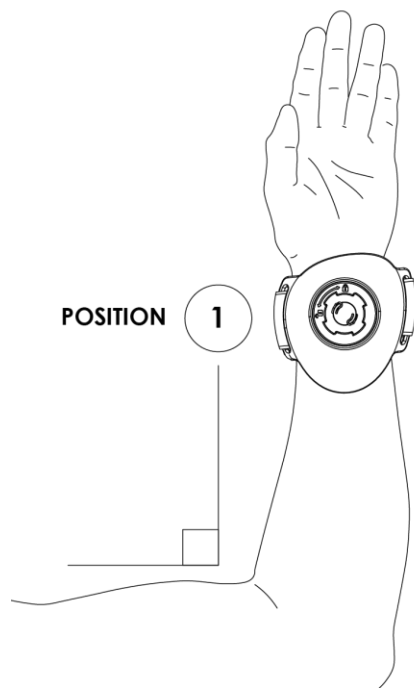
- *Do not apply force in a non-perpendicular direction to the device.*
- *Do not apply force at an angle or in a direction going across (parallel to) the device.*
- *Do not apply force on or near to the blue band of the device.*
- *Do not apply a force during the three second calibration period before the application starts the force measurement.*
- *Do not move or shake the device during the force measurement.*



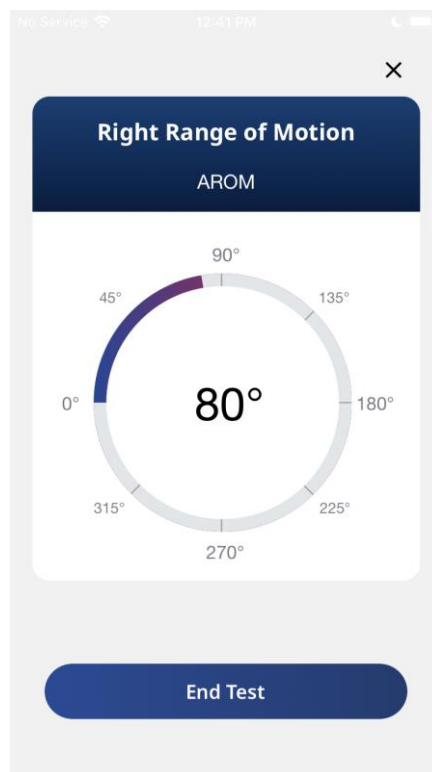
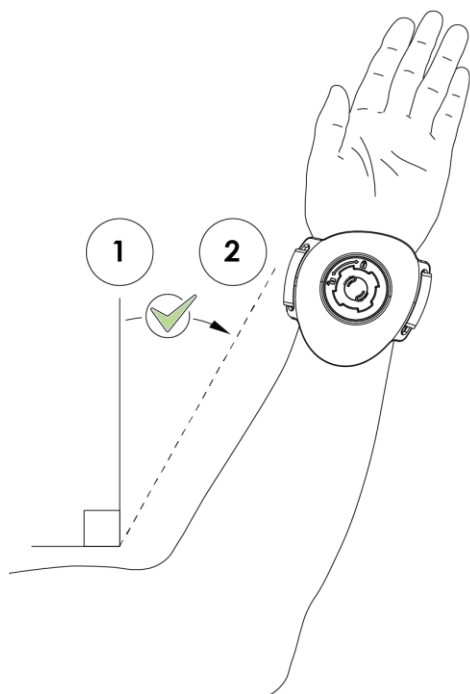
Measuring Range of Motion

The Activforce 2 device can also measure angular displacement for range of motion testing. While the device is calibrating, make sure that the device is being held still in the starting position.

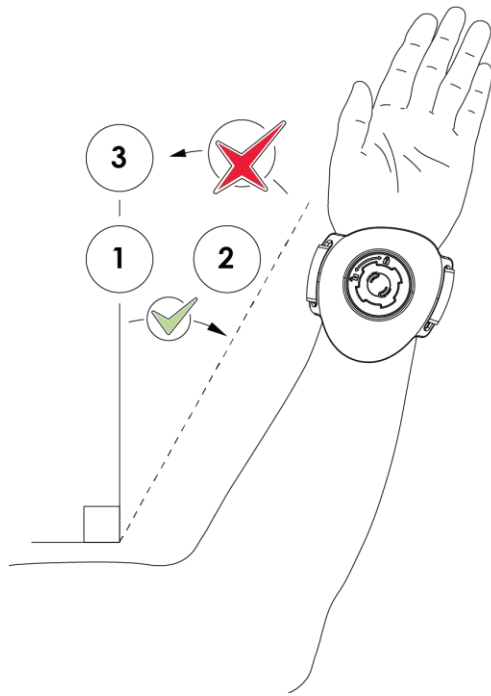
- *Do not rotate the Activforce 2 device in multiple axes during a measurement.*
- *Do not move the Activforce 2 device in multiple planes of motion during a measurement.*
- *Do not rotate the device during the brief calibration period before the application starts the range of motion measurement.*



Place the device and/or subject into the starting position for test measurement and press the “Start Test” button. After calibration, move the device from the starting position (Position 1) to ending position (Position 2) through ONE plane of movement only (frontal, horizontal, or sagittal).



Do NOT move the arm back to the starting position while the app is still measuring range of motion. Returning to the starting position before pressing “End Test” will result in an inaccurate reading.



App Security

Sign in and out of the app or use the security features on your mobile device to ensure data privacy. Your data within the app is encrypted and accessible only with your username and password. Do NOT share your username or password with others. Always comply with local regulations on data privacy.

Using the Hand Strap

When using the Hand Strap attachment, ensure the strap is securely fixed in position. The Hand Strap may be used to secure the device to the user for strength and range of motion tests.

Using the Leg Strap

When using the Leg Strap attachment, ensure the strap is securely fixed in position. Use the Leg Strap to attach the device to the subject's larger body parts for range of motion tests.

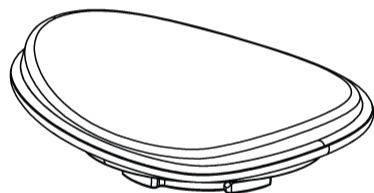
Threading the Hand and Leg Strap

Thread the strap through both loops with the logo face up and the plate face down



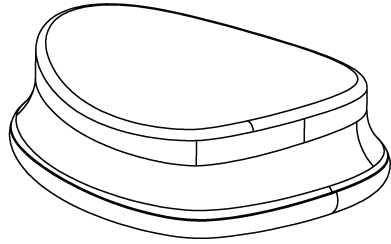
Place the device so that the locking mechanism fits into the hole in the plate. Slide your hand between the device and the strap. Pull the non-logo side across your hand. Pull the logo side over and secure the velcro. Use with desired attachment.

Using the Arched Pad



When using the Arched Pad attachment, ensure the attachment is securely attached in the locking mechanism. Use on hard or bony body parts for strength tests. The curve of the Arched Pad surface can be used to place the device against curved body parts.

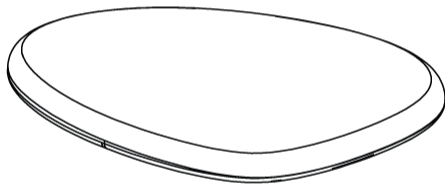
Using the Foam Insert and Silicone Cover with the Arched Pad



Use of the Foam Insert and Silicone Cover is optional. For additional subject comfort. The Silicone Cover can be secured in place using the grooves in the silicone to fit around the Arched Pad, providing a non-porous surface which can be easily cleaned and disinfected between uses.

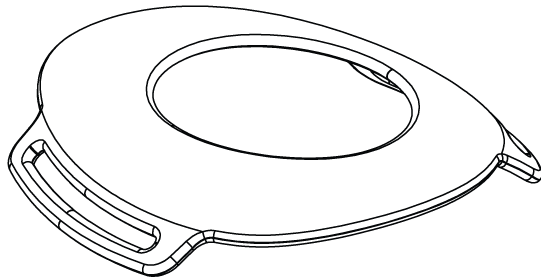
To ensure accurate measurement and prevent the slippage of the device or Silicon Cover during measurement, force should ONLY be applied in a direction perpendicular to the Pad surface.

Using the Rounded Pad



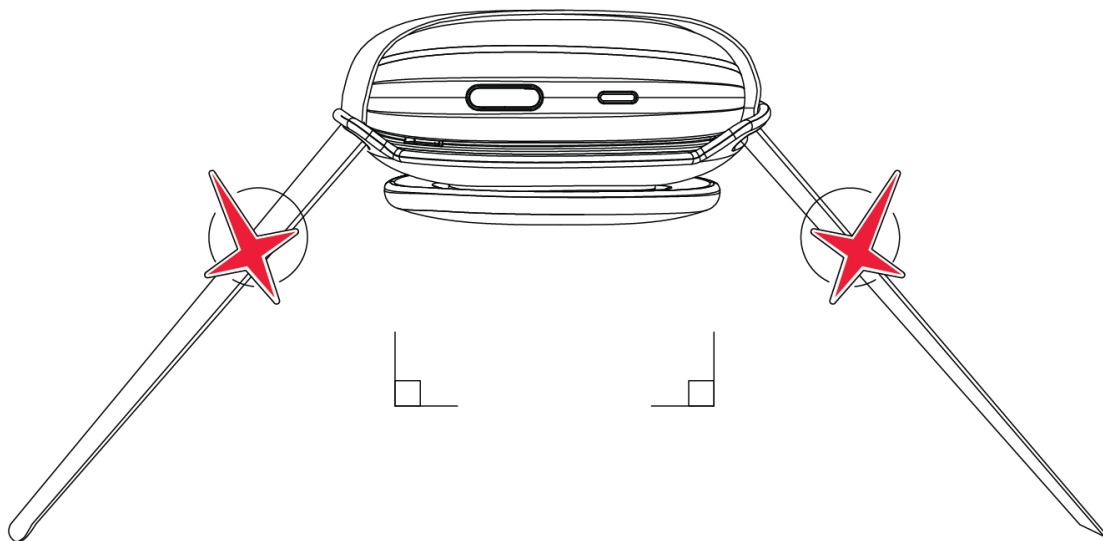
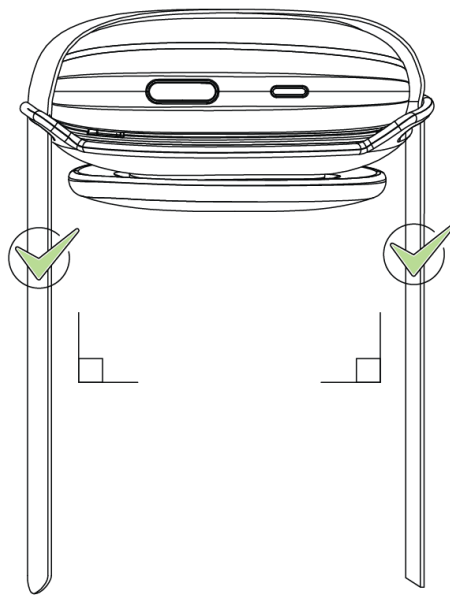
When using the Rounded Pad attachment, ensure it is securely attached in the locking mechanism. Use this pad for all grip strength measurements and when bracing a test position against an immovable object.

Using the Belt Loop Plate



When using the Belt Loop Plate attachment, keep the belt positioned perpendicular through the loops to reduce strain on the belt loops.

The plate is designed to hold the belt in position during a test and it is not designed to withstand force from a test. No force should be applied on the loops for a more accurate measurement. Keep the straps parallel to the direction of applied force so the force is transmitted to the device. Ensure the belt is wrapped over the smooth side of the device and not over the attachment side of the device.



The Round Pad with the Belt Loop Plate is recommended when the device is being pressed into the inanimate object.

The Belt Loop Plate may be used to guide the belt when the device is strapped to a fixed or immobile object.

Cleaning and Disinfecting the Device

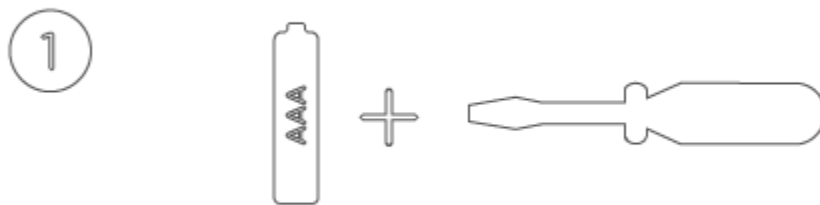
To prevent the spread of infection and diseases, the Activforce 2 device and pad should be disinfected between each use. The Activforce 2 device external surfaces, including the rounded pad and the soft, arched pad silicon sleeve, can be hand wiped at room temperature with a soft cloth and a cleaning solution consisting of 70% isopropyl alcohol and water. After application, the cleaning solution should be allowed to evaporate completely.

Alternatively, a cleaning solution of 1% hypochlorite and water (10,000 ppm) can also be used to wipe the device, pads and silicon sleeves. Antibacterial hand sanitizing agents such as non-alcohol wipes or alcohol based hand gels may also be used. Any residue from these agents should be wiped away using a soft, dry clean tissue or towel.

Replacing the Battery

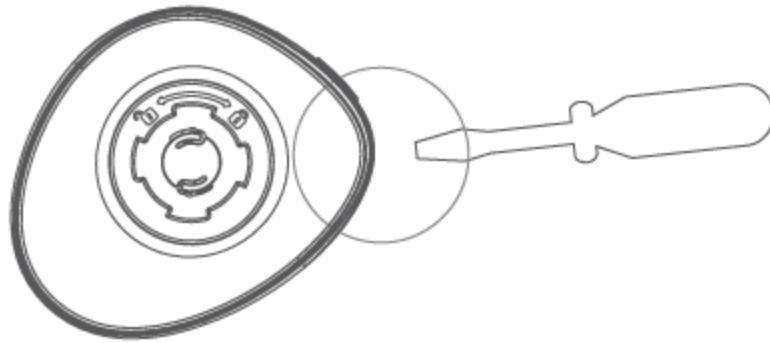
The Activforce 2 device comes with a standard AAA battery, which lasts between six to twelve months, depending on usage and environmental conditions.

To replace the battery, follow these steps:



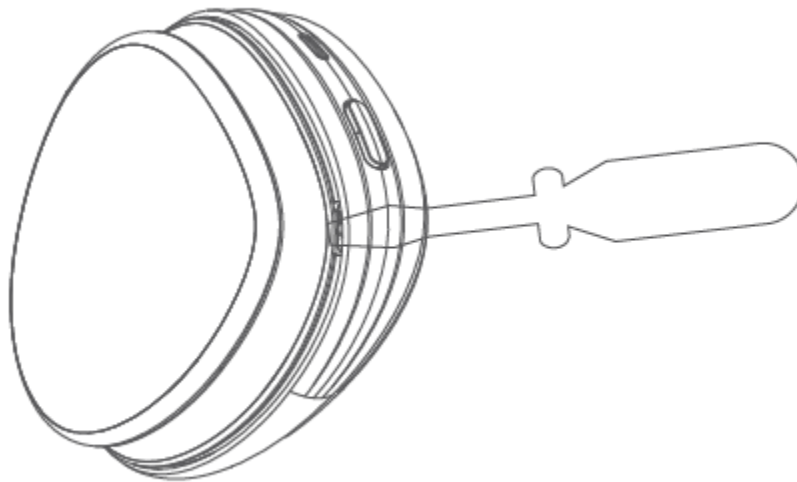
Obtain a new AAA battery and a medium size flat-head screwdriver

2

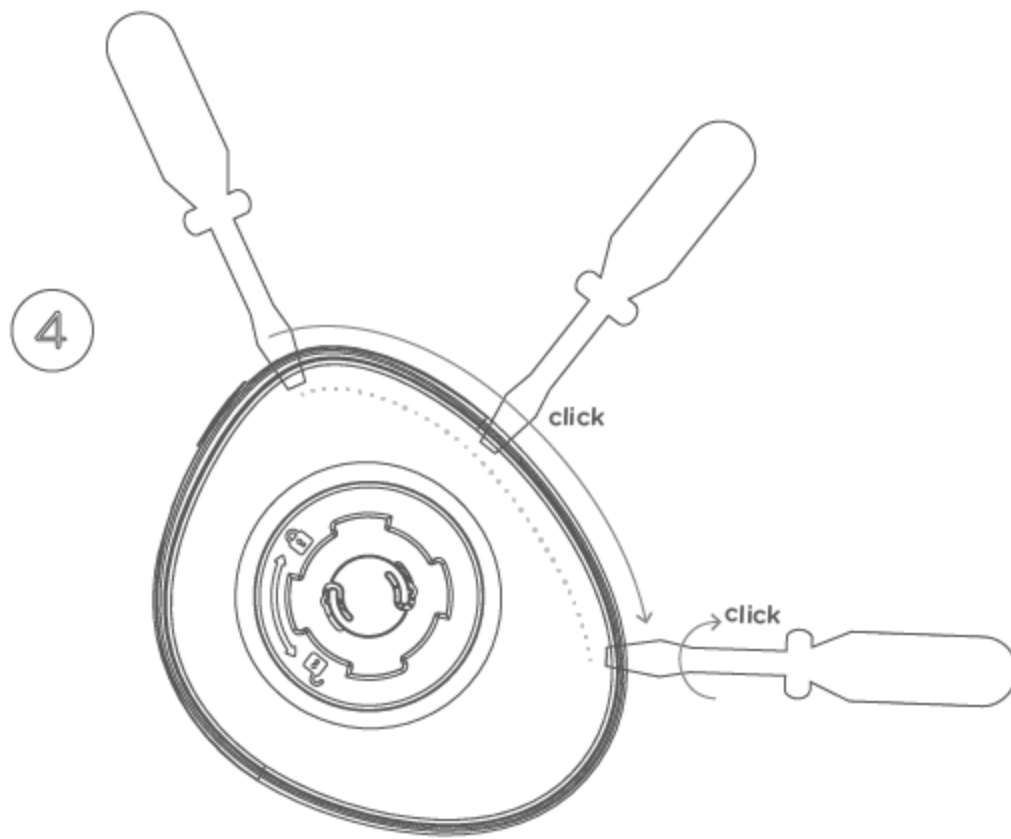


Hold Activforce 2 device and the screwdriver with the pad attachment mechanism facing upwards. The Activforce logo should NOT be visible.

3



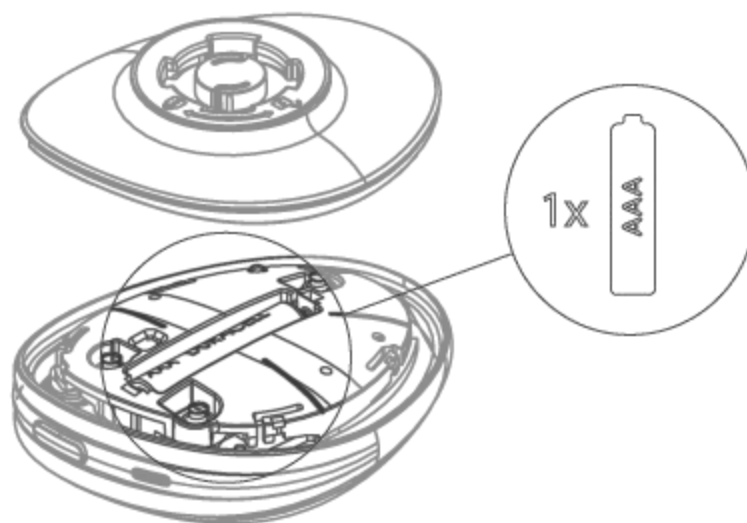
Insert the tip of the screwdriver in the small opening near the power button and gently turn the screwdriver until a CLICK sound is heard and the bottom shell lid pops slightly open. This opens the first of five latches on the bottom lid.



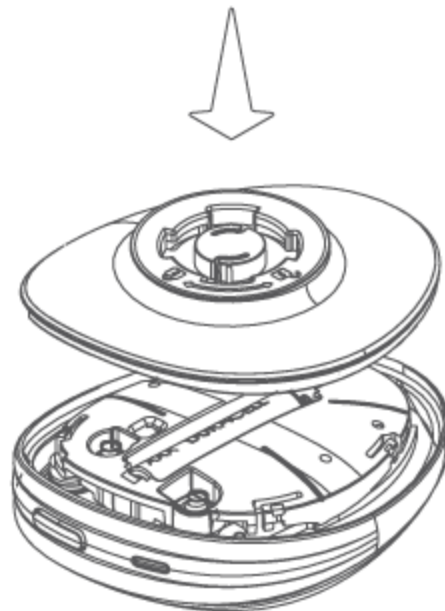
Gently slide the screwdriver clockwise along the edge of the Activforce 2 device, keeping the tip inside the gap between the lid and the device, until it is about an inch and a half away from the original opening near the power button.

Stop sliding and gently turn the screwdriver until a CLICK sound is heard. Continue sliding the screwdriver around the edge with the tip inside the crevice, stopping every inch and a half to turn the screwdriver to pop open the latches of the bottom lid. The bottom lid can be removed when four to five of the latches are opened.

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Warnings and Contraindications

The Activforce 2 device should NOT BE USED when:

- The user and/or subject has a known allergy to silicon or plastic materials.
- The skin contacting the device or pad is damaged, irritated or otherwise not healthy.
- The device or attached pad is visibly damaged.
- The device is in an environment with high heat, humidity or pressure.

This information is provided for general informational purposes only and is not intended as, nor should it be considered a substitute for, professional medical advice. Do not use the information on this website for diagnosing or treating any medical or health condition. If you have or suspect you have a medical problem, promptly contact your professional healthcare provider. The information on this website is provided “as is” without any representations or warranties, express or implied.

Troubleshooting

If the Activforce 2 device does not connect with the mobile companion application, ensure that the application has Bluetooth permissions on the mobile device. For some devices, the Activforce 2 companion application also requires Location permissions. If connectivity problems continue to occur, follow the instructions to replace the battery or make sure your mobile device is supported.

The Activforce 2 mobile application performs a tare operation automatically before each measurement, during the calibration phase. In addition, the device can also be manually tared. To tare the device, select “Calibrate Your Device” from the settings menu of the Activforce 2 mobile companion application.

To perform a hard reset of the device, remove the battery and re-insert it after 10 seconds. The battery and the removable pads are the only user serviceable items.

For further assistance, complaints or comments, please contact support@activbody.com.

Additional Information

Safety

The Activforce 2 device is certified to be compliant with all required safety standards and regulations, including electro-magnetic compatibility and hazardous materials, for all territories it is distributed in. This includes these standards: Safety IEC 60601-1 and EMC EN 60601-1-2.

The Activforce 2 device is not waterproof and should not be immersed in water or other liquids.

Similar to many electronic devices, the Activforce 2 device contains flammable materials and should not be exposed to flames or other excessive heat sources.

Service Life

The Activforce 2 device has a service life of at least 30,000 cycles, or force measurements.

Disposal

In the European Union, the symbol below indicates that the product should not be disposed of with other household waste. Batteries should be discarded separately, and the device should be deposited at an appropriate facility to enable recycling. Please separate these items from other types of waste and recycle them responsibly, following your local government’s disposal guidelines



Activforce 2 Device Specifications

Activforce 2 Device Dimensions

- Weight: (with AAA battery) 4.8 oz / 137 g
- Length: 3.7 in / 9.5 cm
- Width: 3.1 in / 7.8 cm
- Height: 1.3 in / 3.3 cm
- Volume: (approximate) 8.5 in³ / 139 cm³

Activforce 2 Device Functional Specifications

- Force Measurement Range: 0 to 200 lb / 0 to 90 kg
- Force Measurement Accuracy: $\pm (1.4 \text{ lb} + 5\% \text{ of the applied force})$
- Range of Motion Accuracy: $\pm 1^\circ$ for angles measured from 0° to 33° , $\pm 3\%$ of the measured angle when $> 33^\circ$
- System Requirement: Android 8 or higher, iOS 13 or higher
- Connectivity: Bluetooth 4.1
- Operating Distance: Up to 7 ft / 2 m from mobile device
- Battery: 1 AAA battery
- Battery life: Approximately 6 months, may vary with usage or environmental factors
- Operating Temperature: Range 32° to 95° F / 0° to 35° C
- Storage Temperature Range: -13° to 122° F / -25° to 50° C
- Operating Humidity Range: 15% to 93% relative humidity
- Operating Pressure Range: 20.7 in Hg to 31.3 in Hg, 700 hPa to 1060 hPa

Activforce 2 Case Dimensions

- Weight: 29.5 oz / 835 g
- Length: 14.2 in / 36.0 cm
- Width: 6 in / 15.2 cm
- Height: 3.94 in / 10.0 cm
- Volume: (approximate) 334 in³ / 5,472 cm³

Activforce 2 Accessories Dimensions

- Hand Strap Length: 13.5 in / 34.3 cm
- Hand Strap Width: 1.5 in / 3.8 cm
- Leg Strap Length: 31.5 in / 80.0 cm
- Leg Strap Width: 1.5 in / 3.8 cm
- Belt Length: 97.6 in / 247.9 cm
- Belt Width: 1.5 in / 3.81 cm

Contact

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