



User manual

Activforce 2 provides real-time force and motion measurements to quantify patient progress in applications such as physiotherapy and muscle rehabilitation. Activforce 2 functions as a handheld force and angle measurement device when connected to an easy-to-use companion mobile app. Download the free Activforce 2 companion app from the Apple App or Google Play Store.

Components of the Activforce 2 kit

- Activforce 2 device
- Activforce 2 mobile application
- Activforce 2 dashboard
- Rounded pad
- Curved pad
- Foam pad
- Silicone cover
- Hand strap
- Leg loop
- Belt
- Belt loop
- Individual carrying case
- Activforce 2 complete solution video

Connecting the device to the mobile app

Activforce 2 software versions: iOS 1.7+, Android 1.7+ 1.

1. switch on the device by pressing and holding the device button until a BLUE LED flashes. A BLUE flashing LED indicates that the Activforce 2 device is available for Bluetooth® connection with the companion mobile app.
2. Bluetooth must be enabled on the phone or tablet. If it is off, the application will remind you to turn it on.
3. start a measurement in the Activforce 2 app or select "Connect device" in the settings menu. A list of available devices is displayed in the app. Tap "Connect" next to your Activforce 2 device in the list.
4. When the Bluetooth connection is established, the device's LED flashes green at regular intervals. A GREEN flashing light indicates that the Activforce 2 device is connected to the companion mobile app.
5. The application provides two main types of tests and associated reports:
 - Force tests: force tests with left and right side options that output 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 units of measurement. A message can be sent to Activbody Customer Service via the Contact Us page.
6. Switch off the unit by pressing and holding the button until a red LED flashes. Multiple RED flashing LEDs indicate that the battery is low and needs to be replaced. A single RED flash indicates that the unit is switched off.

Note: Always start the app and pair the device via the in-app dialogue "Connect" in the app. If you pair the unit via the settings screen of your mobile device without pairing it in the app, an error will occur. In case of a pairing error: Close the app, deactivate Bluetooth in the settings of your device, turn Bluetooth back on and pair the device again via the app.

Using the Activforce 2 mobile app

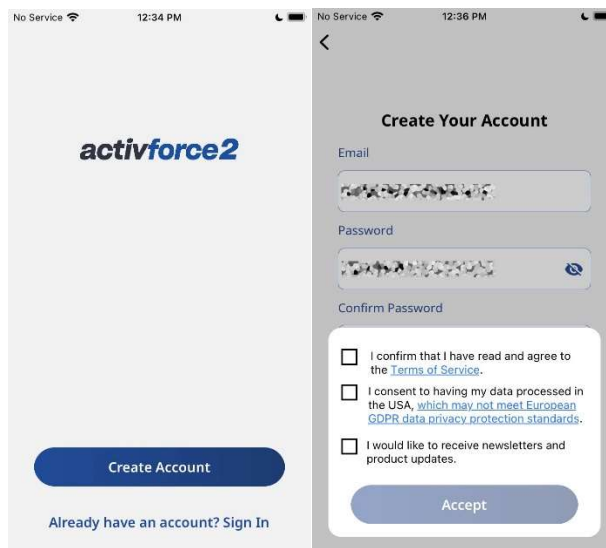
Download the app:

Download the Activforce 2 mobile app from the Apple or Google Play store.

Creating an account.

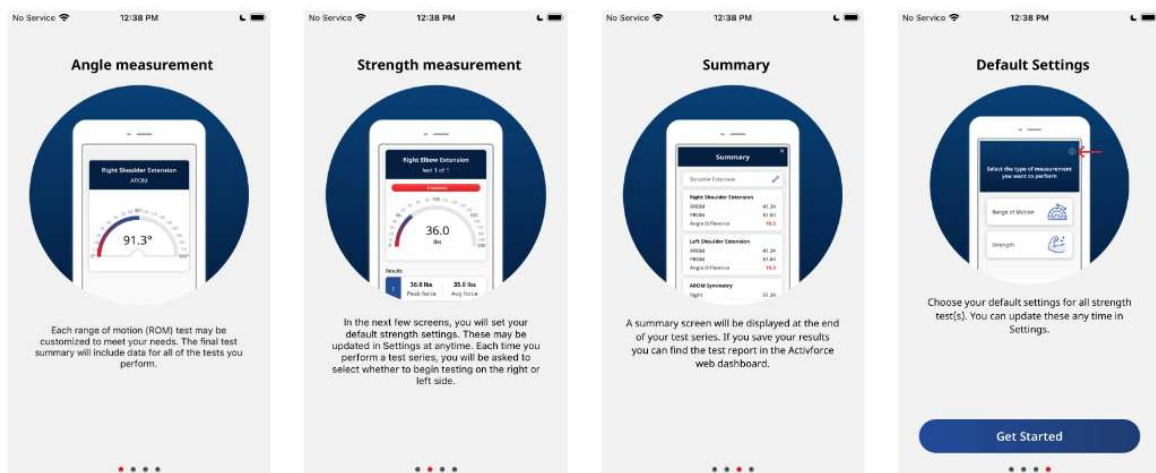
If you are using Activforce 2 for the first time, you will need to create an account. Enter your email address, choose a password and click Create Account.

Read and accept the Terms and Conditions and Privacy Agreement. Choose whether or not you want to receive newsletters and product updates. Tap Accept to start the account activation process.



First time guide

The first three screens above will guide you through using the main features of the app (angle measurement, force measurement, overview screen).



Selecting the default setting

When you use the app for the first time, you will be asked to select the default settings. These can be updated at any time in the Settings menu.

Firstly, set your country.

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

Select your Country
Required for regulatory purposes

U

U.S. Outlying Islands

U.S. Virgin Islands

Uganda

Ukraine

United Arab Emirates

United Kingdom

United States

Uruguay

Uzbekistan

V

Vanuatu

Vatican City

A
B
C
D
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F
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H
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K
L
M
N
O
P
Q
R
S
T
U
V
W
Y
Z

Set your Unit of Measurement

Imperial

Metric

Newton

Set how many strength test(s) you want to do for each motion

1

2

3

Set how long you want to test each motion

seconds

6

Next

Share data

Activforce 2 would like to collect **anonymous data** to help improve our product. We are HIPAA compliant and will not ask for or use any personal identifiable information.

Allow

Not Now

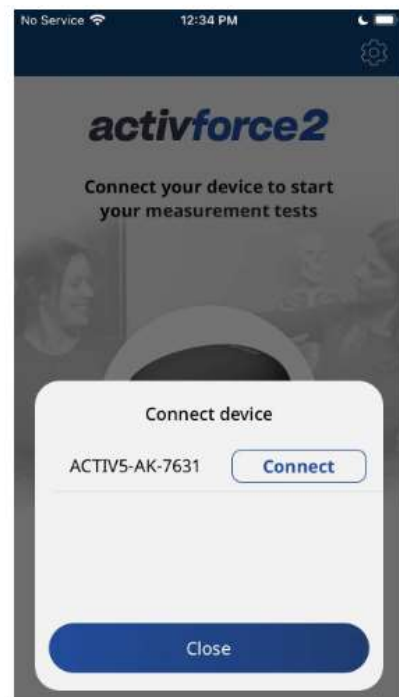
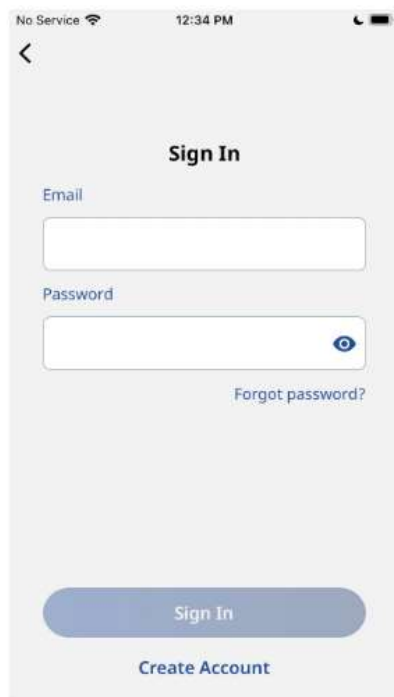
Then set the number of force tests you want to perform for each movement.

Next, set the duration (in seconds) for each force test.

Finally, the app will ask you if you want to allow anonymous data to be shared to improve Activforce 2.

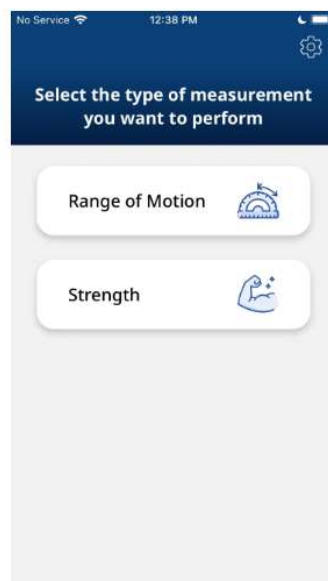
Log in

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



Start screen

After you have logged in, you will see the Activforce 2 start screen. Select the type of measurement you want to take: Range of Motion or Force.

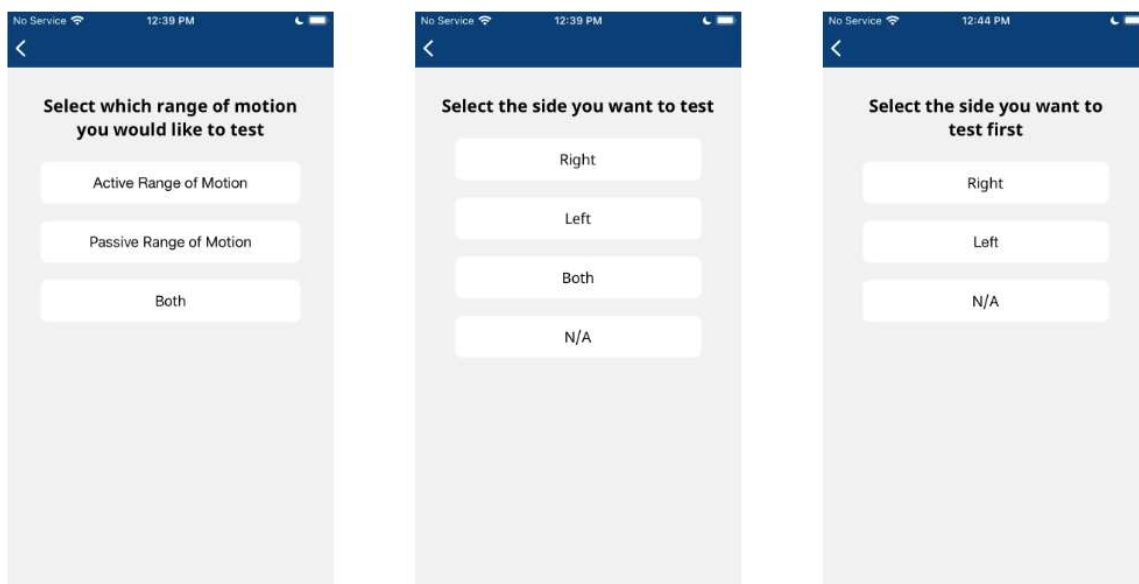


Range of motion measurements

The Activforce 2 app can take angular measurements in 3D space from a starting position set during the calibration phase. Two types of range of motion (ROM) measurements can be performed: Active Range of Motion (AROM) and Passive Range of Motion (PROM). After selecting the range of motion on the start screen, you can choose whether you want to perform an "Active Range of Motion" test, a "Passive Range of Motion" test or "Both". If you select "Both", an AROM test will be performed followed by a PROM test.

The app allows you to customise your test by selecting the side(s) to be tested - Right, Left, Both or N/A (if neither side is applicable).

If you select 'Both', you will be prompted to select which side to test first. This selection will be applied to all previously selected test types.



Before the test is started, it can be named either manually or by selecting the suggested joints, movements and positions. The naming of the test can also be skipped by tapping the "Skip" button in the upper right corner.

When you reach 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 begins. Do not press or move the device during the calibration phase.

The Activforce 2 unit is capable of measuring angles in each of the three axes, but for each test only one angle should be measured in a single plane of movement. When multiple types of measurements or sides are selected, the app displays instructions to prepare for the next test in the sequence (change side or continue with position). After the measurement is complete, tap the "End test" button.

Name your test

Test Name

example: Shoulder Flexion

Ankle Cervical Elbow Hand

Hip Knee Lumbar Shoulder

Wrist



Continue

the position for PROM test

After pressing the "End test" button, you have two options: You can either view the test results by tapping the "View summary" button or perform the last measurement again by tapping "Repeat test", which discards the previous result and restarts the measurement process. Tapping the 'Save and Exit' button will save the report to the logged in account and can be accessed from the Activforce 2 dashboard. Tapping the 'X' button to close will not save the report and it will not be accessible from that account's Activforce 2 dashboard.

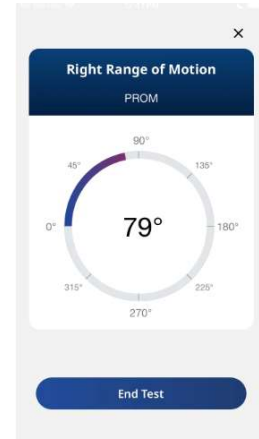
Switch

to the left side for AROM test



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	
Save and Exit	Add Measurement

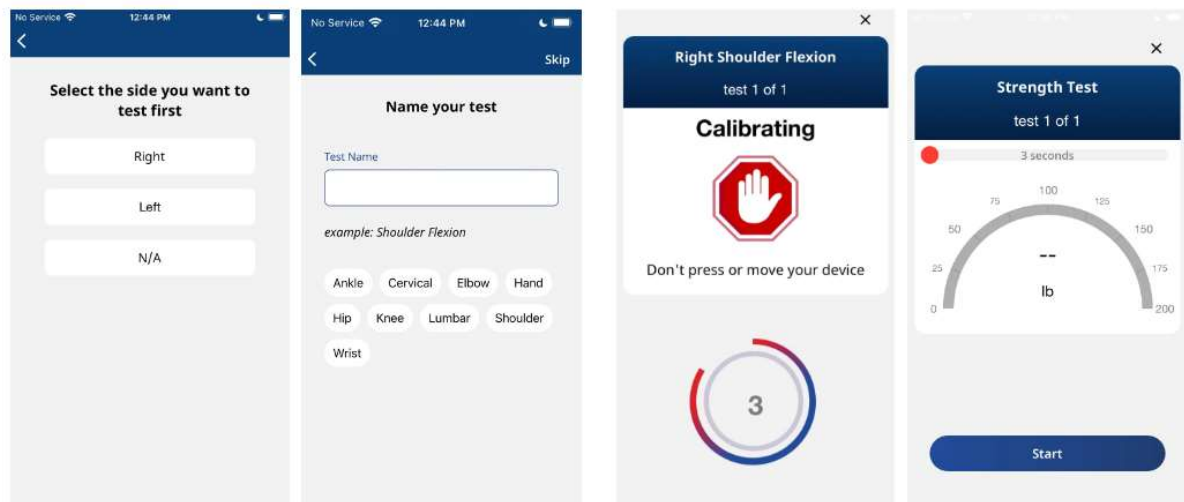


Strength Measurements

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).

Before starting the test, the test can be named either manually or by selecting the suggested joints, movements and positions. Naming the test can also be skipped by tapping the "Skip" button in the upper right corner.

Once you have reached the test screen, you can start the force measurement by tapping the "Start" button. A calibration phase lasting three seconds begins. Do not press or move the device during the calibration.

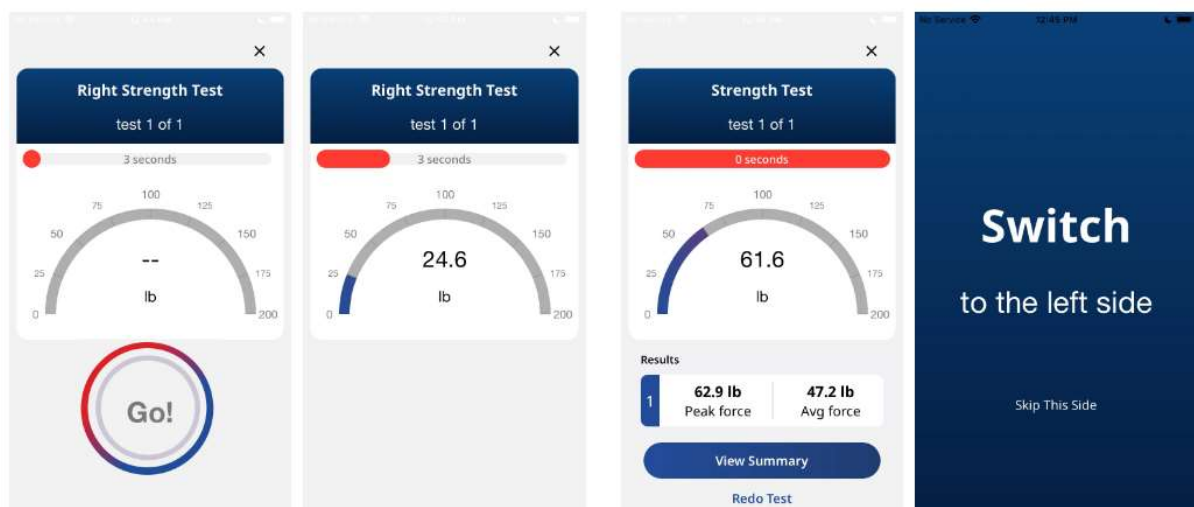


After calibration, a "Go!" sign is displayed indicating that the test can be started by applying force to the device.

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

The duration of the test depends on the predefined settings on the Settings screen (by default it is six seconds). When the test is finished, the app offers a choice: Continue the test and go to the next page by tapping "Next page", or perform the measurement again by tapping "Repeat test", which discards the previous result and restarts the measurement process.

When the "Next page" button is tapped, the app displays instructions on how to prepare for the next test and the next page in the sequence (change page).



When the strength test is complete, a summary screen is displayed with graphs and data showing force over time, peak force and force to weight ratio. The summary screen can be used to save the force test data to the Activforce dashboard or add another measurement.



Settings screen

On the Settings screen, you can connect a device, calibrate the device, change the strength and account settings, contact customer support, and log out, among other things. 1.

Force settings can be adjusted in four different ways: Unit of measure for strength, Unit of measure for weight, Number of tests and Test duration. The settings can be changed by tapping the 'Force settings' button.

Unit of measurement for force - Changing the unit of measurement affects the units displayed in the application. You can choose between imperial, metric and Newton units.

Unit of measurement for weight - Changing the unit of measurement for weight affects the units displayed when calculating the percentage ratio of force to weight. You can choose between imperial and metric units.

Number of tests - This setting allows you to specify the number of measurements for each test. You can choose between one and three tests per page.

Test duration - This setting allows you to set the duration of the force test. You can choose between three and sixty seconds. 2.

2. to tare your device and ensure that the force test measurement starts at zero, tap the 'Calibrate your device' button and follow the on-screen instructions. 3.

Contact Activbody Support by tapping the 'Contact Us' button. 4.

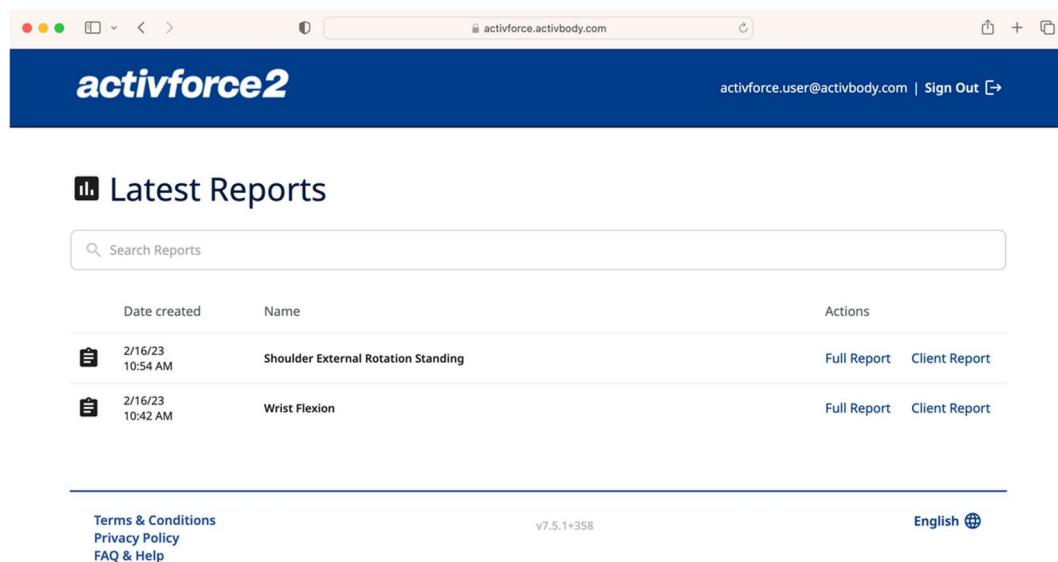
4. log out of your current Activforce 2 account by tapping the "Log out" button. After logging out, the app will return to the welcome screen where you can log in again.

Using the Activforce 2 Web Dashboard

The Activforce 2 web dashboard, available at <https://activforce.activbody.com>, displays saved force and angle measurements. Reports are saved to the dashboard when you use the Save and Exit button in the Activforce 2 mobile app. Log in to the Activforce 2 web dashboard using the same email address and password that you use in the Activforce 2 mobile app. Once successfully logged in, the saved test reports will be displayed in the dashboard.

A test report in the dashboard contains the information recorded during the execution of the test.

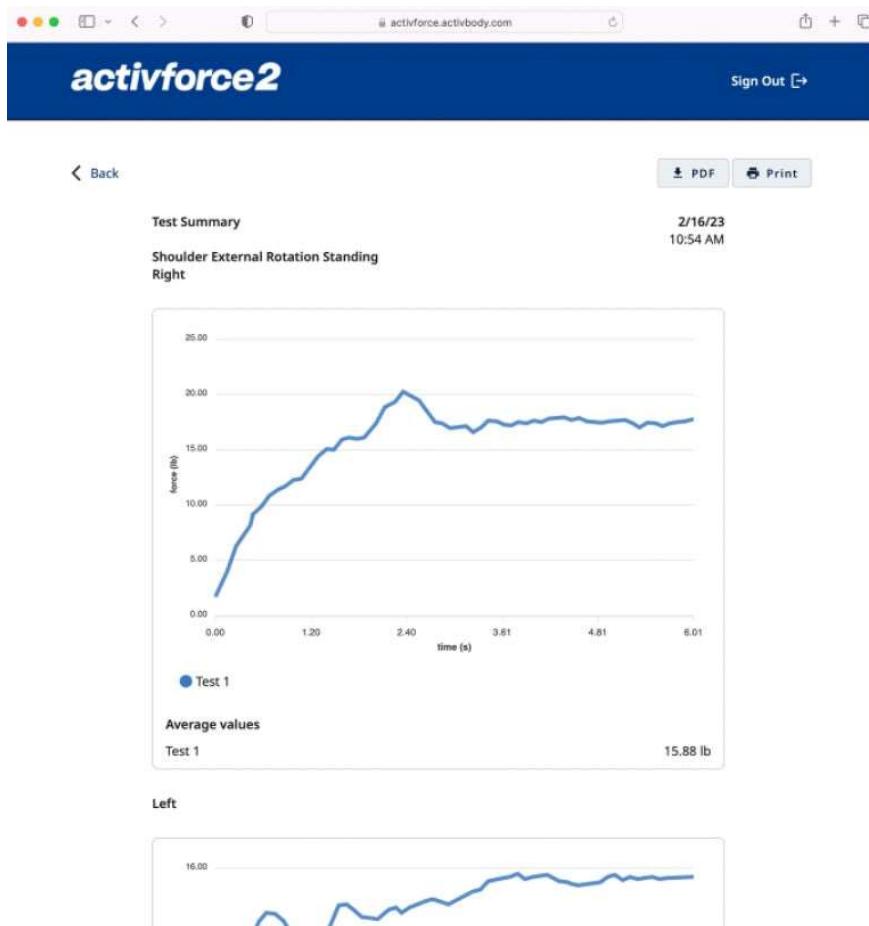
The dashboard also contains all the test summaries for a client in a client report, which can be accessed by clicking on the "Client Report" link on the dashboard home page.



The screenshot shows the Activforce 2 web dashboard. At the top is a dark blue header with the 'activforce2' logo on the left and the user email 'activforce.user@activbody.com' with a 'Sign Out' link on the right. Below the header is a section titled 'Latest Reports' with a search bar. Underneath is a table with two columns: 'Date created' and 'Name'. The table lists two reports: 'Shoulder External Rotation Standing' and 'Wrist Flexion', both dated 2/16/23. To the right of each report name are links for 'Full Report' and 'Client Report'. At the bottom of the dashboard, there are links for 'Terms & Conditions', 'Privacy Policy', and 'FAQ & Help' on the left; the version number 'v7.5.1+358' in the center; and a language selector set to 'English' on the right.

Date created	Name	Actions
2/16/23 10:54 AM	Shoulder External Rotation Standing	Full Report Client Report
2/16/23 10:42 AM	Wrist Flexion	Full Report Client Report

Activforce 2 Web Dashboard



Test Summary from Activforce 2 Web Dashboard

activforce2 activforce.user@activbody.com | Sign Out [→]

< Back PDF Print

Client Report 2/16/23 10:54 AM

Shoulder External Rotation Standing

Peak Force (lb)	
Right	20.26 lb
Left	15.67 lb
Strength Difference	4.58 lb*
Percentage Difference	25.51%*

* Studies show that a strength difference at or above 10% increases the risk of injury.

Terms & Conditions
Privacy Policy
FAQ & Help

v7.5.1+358

English

Customer Report from Activforce 2

[Web Dashboard](#)

Attaching a pad to the unit

The locking mechanism consists of a circle with four wide recesses in which the pads are securely fastened by a twist lock. To attach an accessory to the Activforce 2 unit

Align the teeth of the attachment with the recesses of the locking mechanism. 2.

2. press the teeth of the attachment downwards into the recesses. 3.

3. turn the attachment a full quarter turn clockwise (towards the locking symbol).



Correct use of the Activforce 2 device

Measuring the force

The Activforce 2 device measures accurately when force is applied perpendicular to the large surface of the device or to an attached pad. The force should be applied as close to the centre of the surface as possible. All force should be applied directly and vertically through the centre of the device and into the device.

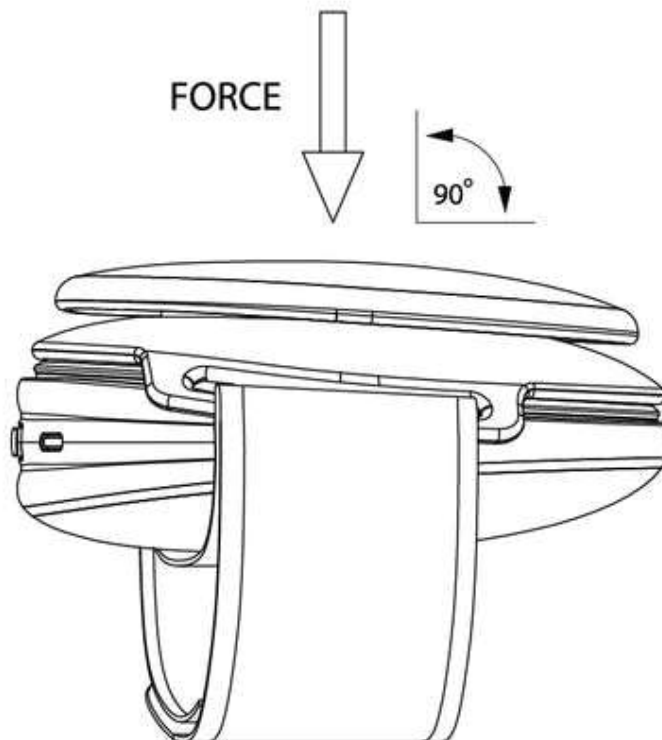
Do not apply force to the unit in a non-perpendicular direction.

Do not apply force at an angle or in a direction that is transverse (parallel) to the appliance.

Do not apply force on or near the blue band of the unit.

Do not apply force during the three-second calibration period before the application starts measuring force.

Do not move or shake the device during force measurement.



Measuring the range of motion

The Activforce 2 device can also measure angular displacement to test range of motion. Make sure that the device is held still in the starting position during calibration.

Do not rotate the Activforce 2 device in multiple axes during measurement.

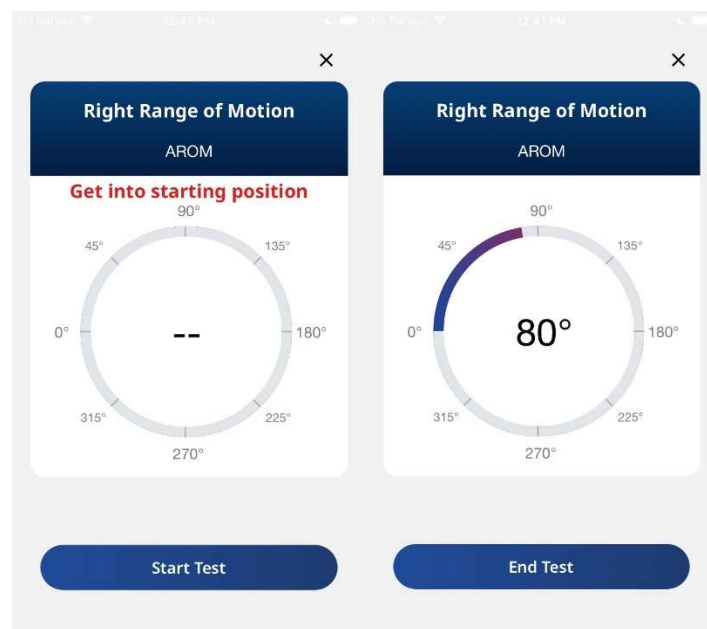
Do not move the Activforce 2 device in multiple planes of motion during a measurement.

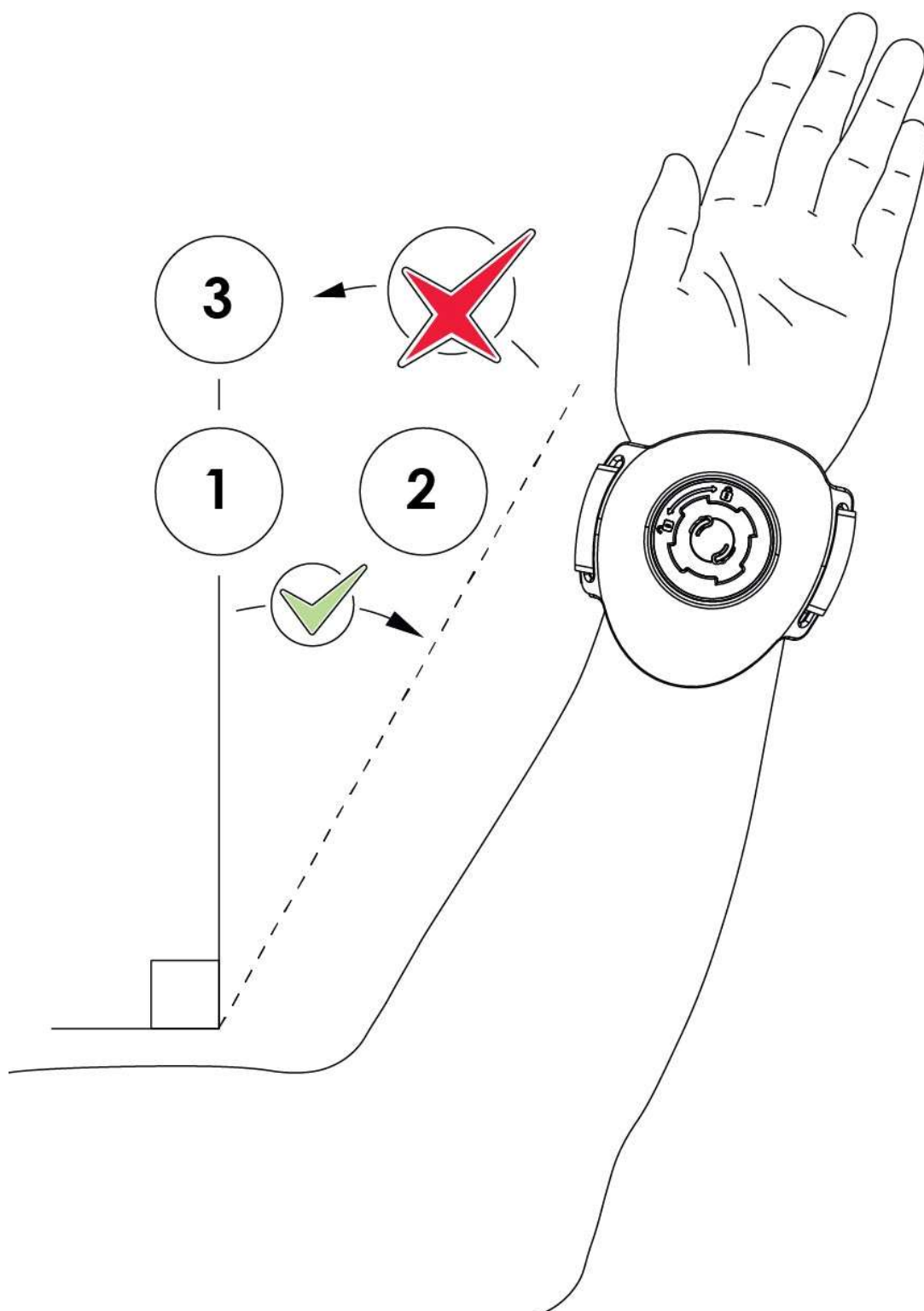
Do not rotate the device during the short calibration period before the application starts measuring the range of motion.

Place the device and/or the test subject in the starting position for the test measurement and press the 'Start test' button.

After calibration, move the device only in ONE plane of movement (frontal, horizontal or sagittal) from the start position (position 1) to the end position (position 2).

DO NOT move the arm back to the starting position while the device is still measuring the range of motion. Returning to the starting position before pressing the "End Test " button will result in an inaccurate measurement.





App security

Log in to the app and log out or use the security features on your mobile device to ensure privacy. Your data within the app is encrypted and only accessible with your username and password.

DO NOT share your username or password with anyone. Always comply with local data protection regulations.

The hand and leg straps

The hand strap

When using the hand strap, make sure that the strap is securely fastened. The hand strap can be used to attach the device to the user for strength and movement tests.

The leg strap

When using the leg strap attachment, make sure the strap is securely fastened. Use the leg strap to attach the device to the larger parts of the subject's body for range of motion tests.

Threading the hand and leg strap

Thread the strap through both loops with the logo facing up and the plate facing 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 over your hand. Pull the logo side over it and fasten the Velcro. Use whichever fastener you prefer.



The different pads

Using the curved pad

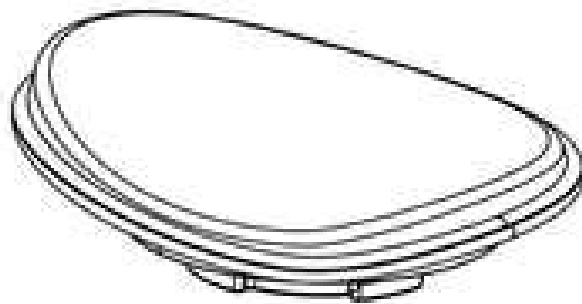
When using the Curved Pad attachment, make sure that the attachment is securely fastened in the locking mechanism. Use the device on hard or bony parts of the body for strength testing. The curved surface of the curved pad can be used to apply the device to curved body parts.

The rounded pad

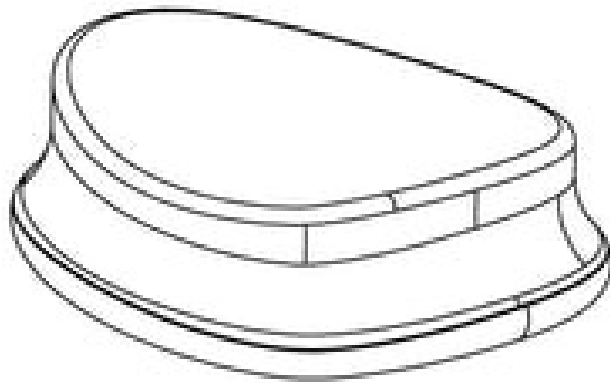
When using the rounded pad, make sure it is securely fastened in the locking mechanism. Use this pad for all grip strength measurements and when supporting a test position against an immovable object.

The foam insert and silicone cover with the curved pad.

The use of the foam pad and the silicone cover is optional. To increase the comfort of the subject, the foam insert can be attached to the curved pad by removing the adhesive layer and sticking the insert to the surface of the curved pad. To ensure accurate measurement and to prevent slippage of the instrument or silicone cover during measurement, force should **ONLY** be applied in a direction perpendicular to the surface of the pad.



The curved pad



The foam insert, the silicone cover and the curved pad



The rounded pad

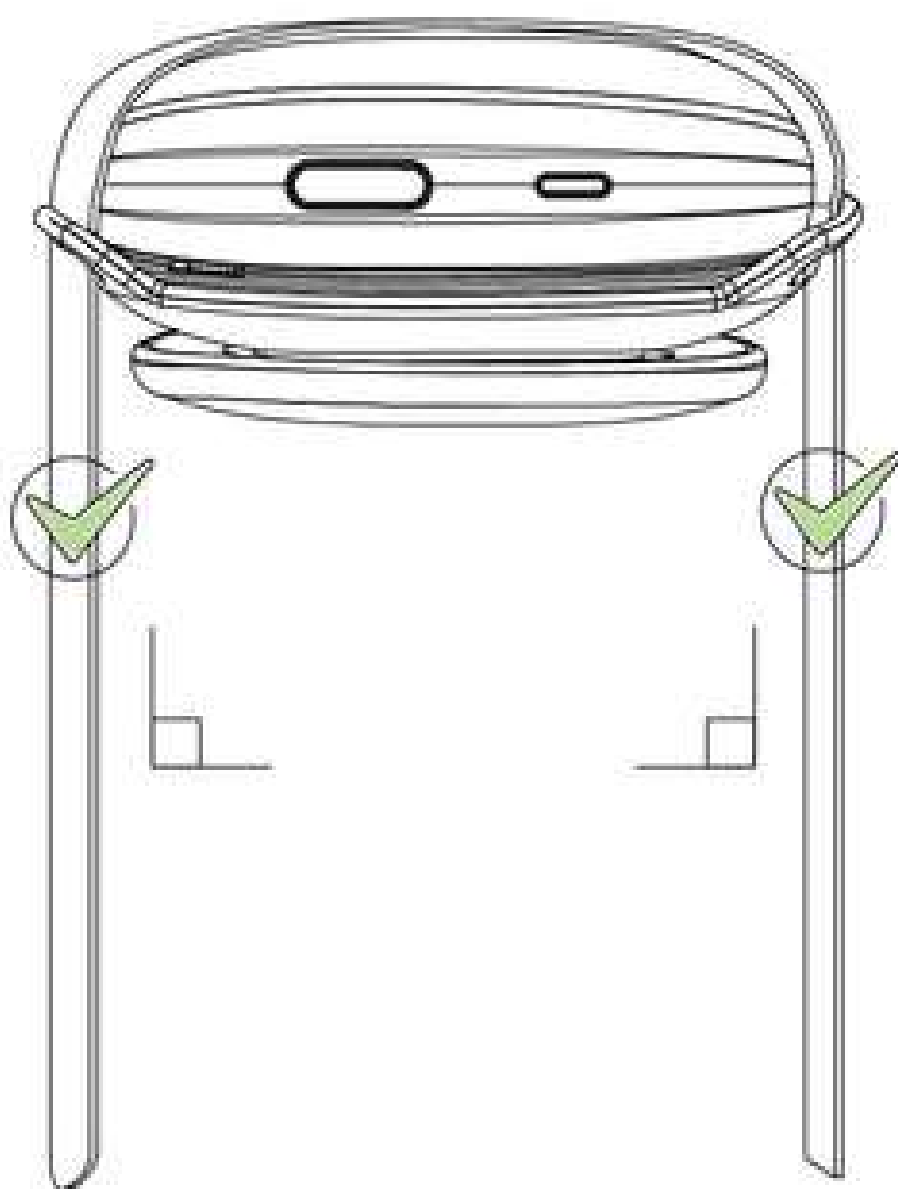
The belt loop

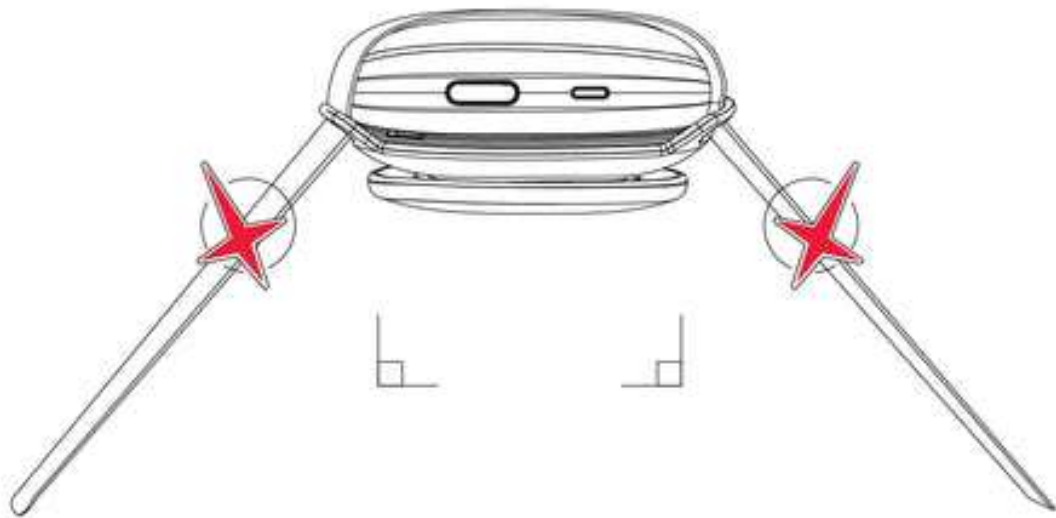
When using the belt loop plate, ensure that the belt is passed vertically through the loops to reduce the load on the belt loops. The plate is used to hold the belt in position during the test and is not designed to absorb the forces that occur during the test. To obtain a more accurate measurement, no force should be applied to the belt buckles. The belt should be held parallel to the direction of the applied force so that the force is transmitted to the device. Care should be taken to ensure that the belt passes over the smooth side of the device and not over the mounting side of the device.

The round plate with belt loop is recommended when the unit is pressed into an inanimate object.

The belt loop plate can be used to guide the belt when the unit is attached to a fixed or immovable object.







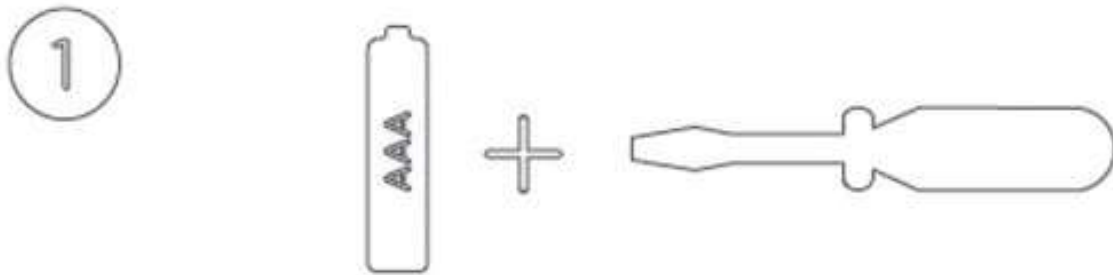
Cleaning and disinfecting the unit

To prevent the spread of infection and disease, the Activforce 2 device and pad should be disinfected after each use. The external surfaces of the Activforce 2 device, including the rounded pad and the soft, domed silicone cover of the pad, can be wiped at room temperature with a soft cloth and a cleaning solution of 70% isopropyl alcohol and water. After use, the cleaning solution should evaporate completely.

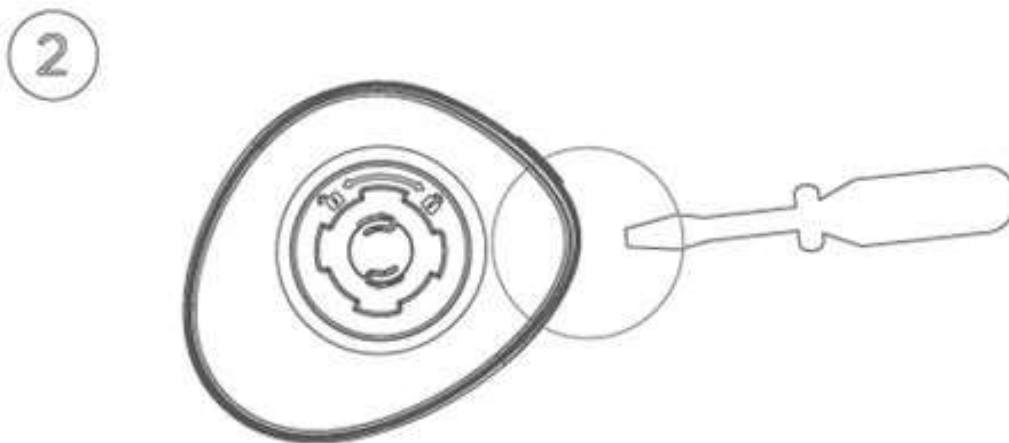
Alternatively, a cleaning solution of 1 % hypochlorite and water (10 000 ppm) can be used to wipe the unit, pads and silicone sleeves. Antibacterial hand sanitisers such as alcohol-free wipes or hand gels containing alcohol can also be used. Any residue from these agents should be wiped off with a soft, dry and clean handkerchief or towel.

Replacing the battery

The Activforce 2 unit is supplied with a standard AAA battery which will last from six to twelve months depending on use and environmental conditions. To replace the battery, follow the steps below:

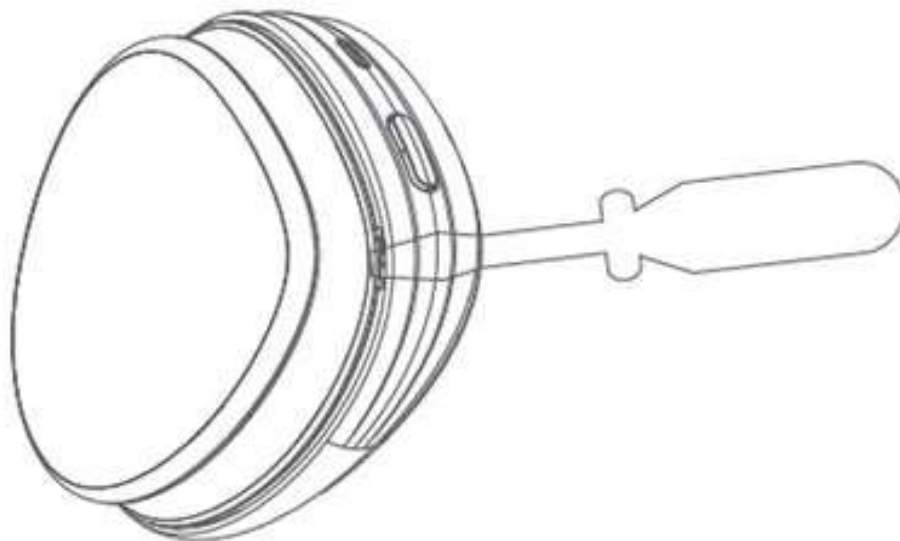


Obtain a new AAA battery and a medium-sized flat-blade screwdriver. Hold the Activforce 2 device and screwdriver so that the attachment mechanism of the pad is facing up. The Activforce logo must NOT be visible.

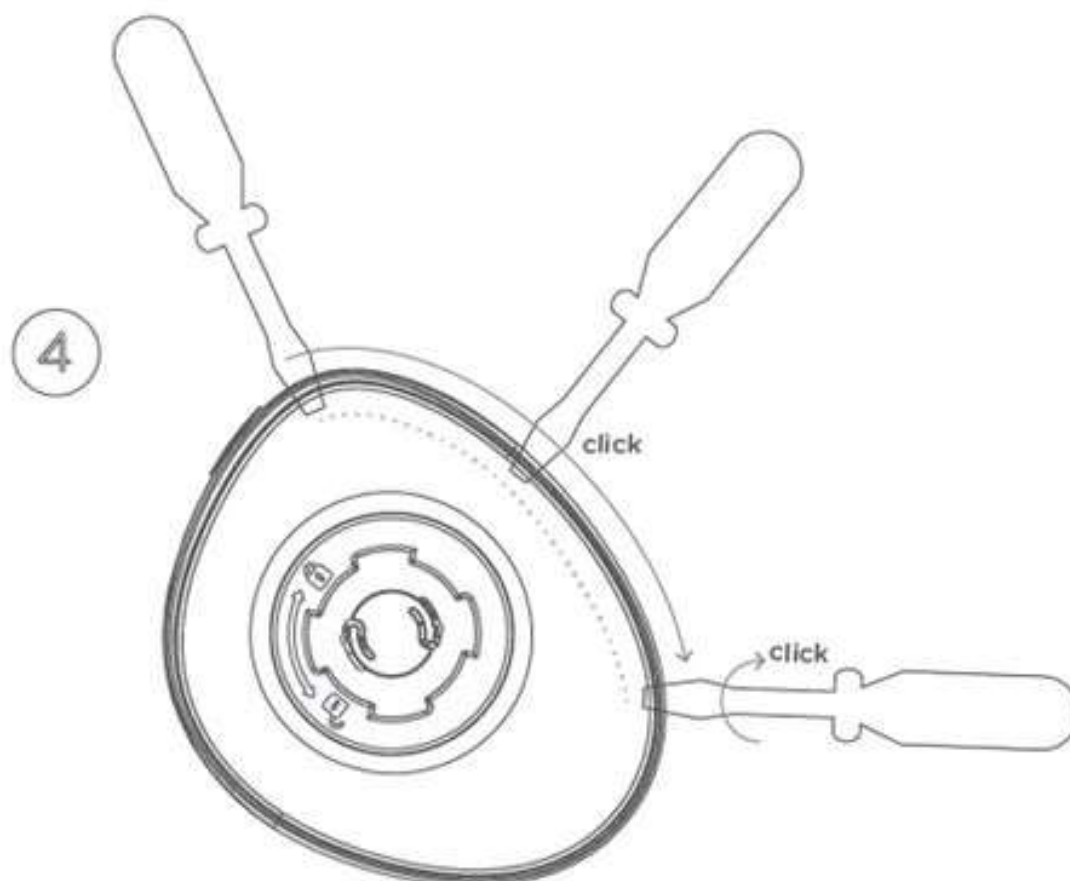


Insert the tip of the screwdriver into the small hole near the power button and gently turn the screwdriver until you hear a CLICK and the bottom cover of the housing pops open slightly. This opens the first of the five latches of the lower cover.

3

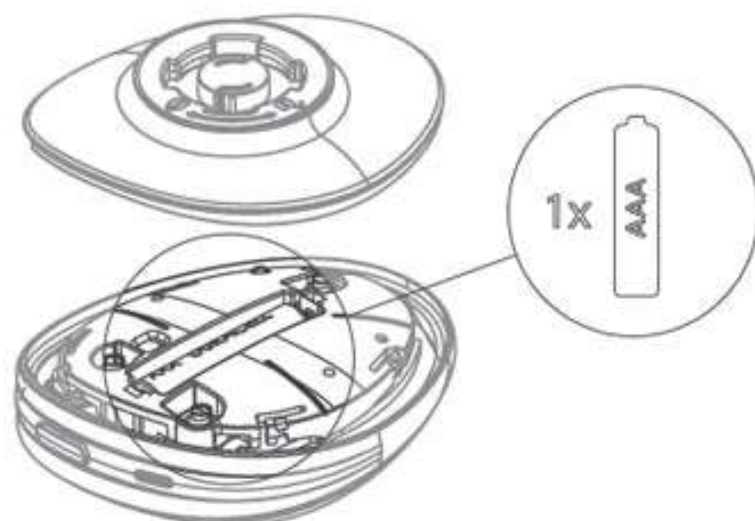


Gently slide the screwdriver clockwise along the edge of the Activforce 2, keeping the tip in the gap between the lid and the unit, until it is about 1.5 cm from the original opening near the power switch.

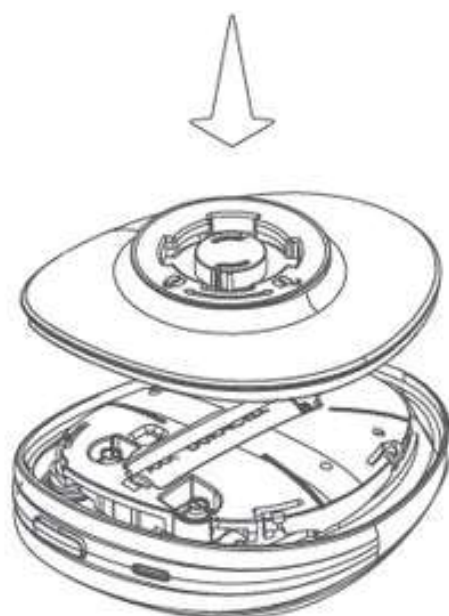


Stop and gently turn the screwdriver until you hear a CLICK. Continue to slide the screwdriver around the edge with the tip in the gap and stop every one and a half centimetres to turn the screwdriver to release the bottom cover lock. The bottom cover can be removed when four to five latches are open.

5



6



Warnings and contraindications

The Activforce 2 device must NOT be USED if

The user and/or subject has a known allergy to silicone or plastic.

The skin in contact with the device or pad is damaged, irritated or otherwise not healthy.

The device or the pad attached to it is visibly damaged.

The device is in an environment with high heat, humidity or pressure.

This information is for general information only and is not intended as a substitute for professional medical advice. Do not use the information on this website to diagnose or treat a medical or health problem. If you have or suspect you have a medical problem, please contact your doctor immediately. The information on this website is provided without any representation or warranty of any kind, either express or implied.

Troubleshooting

If the Activforce 2 device cannot connect to the companion mobile app, ensure that the app has Bluetooth permissions on the mobile device. On some devices, the Activforce 2 companion app also requires location permissions. If connectivity issues persist, follow the battery replacement instructions or make sure your mobile device is supported.

The Activforce 2 mobile app automatically performs a tare before each measurement during the calibration phase. The device can also be tared manually. To tare the device, select 'Calibrate your device' from the mobile app settings menu.

Activforce 2.

To hard reset the device, remove the battery and reinsert it after 10 seconds. The battery and removable pads are the only parts that can be serviced by the user.

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

Further information

Safety

The Activforce 2 device is certified to all required safety standards and regulations, including electromagnetic compatibility and hazardous materials, for all territories in which it is sold. This includes the following standards IEC 60601-1 (safety) and EN 60601-1-2 (EMC).

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

Like many electronic devices, the Activforce 2 unit contains flammable materials and must not be exposed to flames or other excessive heat sources.

Lifetime

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

Disposal

In the European Union, the symbol indicates that the product must not be disposed of with household waste. The batteries must be disposed of separately and the device must be taken to a suitable place for recycling. Please separate these items from other waste and recycle them responsibly in accordance with the waste disposal guidelines of your local authority.



Activforce 2 Unit Specifications

Dimensions

- Weight: (with AAA battery) 137 g (4.8 oz)
- Length: 9.5 cm (3.7 in)
- Width: 7.8 cm (3.1 in)
- Height: 3.3 cm (1.3 in)
- Volume: (approximately) 8.5 in³ / 139 cm³.
- Functional specifications of the device
- Force measurement range: 0 to 200 lb / 0 to 90 kg
- Force measurement accuracy: \pm (1.4 lb + 5% of applied force)
- Movement accuracy: $\pm 1^\circ$ for measured angles from 0° to 33°, $\pm 3\%$ of measured angle for > 33°.
- System requirements: Android 8 or newer, iOS 13 or newer
- Connectivity: Bluetooth 4.1
- Range: up to 2 m / 7 ft from mobile device
- Battery: 1 AAA battery
- Battery life: approx. 6 months, may vary depending on use and environmental conditions
- Operating temperature range: 32° to 95° F / 0° to 35° C
- Storage temperature range: -13° to 122° F / -25° to 50° C
- Operating humidity: 15% to 93% relative humidity
- Operating pressure range: 20.7 in Hg to 31.3 in Hg, 700 hPa to 1060 hPa

Dimensions

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

Dimensions accessories

- Length of hand strap: 34.3 cm (13.5 in)
- Width of hand strap: 3.8 cm (1.5 in)
- Length of leg loop: 80.0 cm (31.5 in)
- Width of leg loop: 3.8 cm (1.5 in)
- Belt length: 247.9 cm (97.6 in)
- Belt width: 3.81 cm (1.5 in)