

***SUUFF* PRO**

USER'S MANUAL / MODEL S2

CONTENTS

OUR GOAL	4
THE SUIFF® PRO EQUIPMENT	4
THE SUIFF® PRO SENSOR	5
TECHNICAL SPECIFICATIONS FOR THE SUIFF® PRO SENSOR	5
SUIFF® PRO SENSOR DETAILS	6
CORRECT USE OF THE SUIFF® PRO SENSOR	7
MAXIMUM ALLOWED LOAD	7
LED MODES	8
CLICK PATTERNS	9
WARMING UP	9
CONNECTING THE SENSOR WITH THE APP AND CALIBRATING TO ZERO	10
AUTOMATIC SWITCH-OFF FEATURE	13
CHARGING THE BATTERY	14
BLUETOOTH RECOMMENDATIONS	15
CHOOSING THE RIGHT PLACE TO USE SUIFF® PRO	15
SAFETY INFORMATION	16
EXERCISES AND RECOMMENDATIONS	18
HOW TO ANCHOR THE SUIFF® PRO SENSOR	19
MAINTENANCE	21
PROBLEM SOLVING	22
WASTE ELECTRICAL AND ELECTRONIC EQUIPMENTS	24
DISPOSING OF THE EQUIPMENT	24
DISCLAIMER	25
WARRANTY	25
CUSTOMER SERVICE	27

Thank you for purchasing a SUIFF® product. This means you have a challenge ahead. Let us be part of it and help you rise to it.

To use your **SUIFF® PRO** sensor with a mobile device, please install the **SUIFF® PRO App** on your mobile phone or tablet.

Search for it on Google Play and download it.

For further information visit www.suiff.com.



WARNING! BEFORE STARTING YOUR SUIFF® PRO EQUIPMENT, CAREFULLY READ THE USER'S INSTRUCTIONS AND SAVE THEM FOR FUTURE CONSULTATION.

OUR GOAL

We aim to help physical conditioning and rehabilitation professionals, providing technological equipment that can add value to their patient treatment and services.

THE SUIFF® PRO EQUIPMENT

The SUIFF® PRO equipment consists of the SUIFF® PRO sensor and its training accessories:

The SUIFF® PRO case, the SUIFF® PRO carabiners, the express SUIFF® flat sling and the Micro USB cable.



SUIFF® PRO Kit



SUIFF® PRO Case



SUIFF® PRO Carabiner



Express SUIFF® Flat Sling

THE SUIFF® PRO SENSOR

The SUIFF® PRO sensor is an innovative and exclusive wireless sensor that can measure traction forces applied in a wide variety of dynamic and static muscle strength exercises.

The sensor records force measurements and sends them to a mobile device, a smartphone or tablet. The exclusive SUIFF® PRO mobile App receives and processes the data sent by the SUIFF® PRO sensor and presents it to the user in real time.

The SUIFF® PRO sensor must be used with SUIFF® training accessories, for example the SUIFF® PRO carabiners, the express SUIFF® flat sling or the SUIFF® resistance band kit.

TECHNICAL SPECIFICATIONS FOR THE SUIFF® PRO SENSOR

Model	S2
Dimensions (width x depth x height)	136x78x31 mm
Weight (g)	120
Material of tensor piece	Aluminium alloy
Material of body	PCB+ABS and thermoplastic vulcanizates (TPV)
Maximum load (kg)	180
Accuracy	$\pm 600 \text{ g}$ or $\pm 0.9\%$ of reading (whichever is greater)
Triaxial accelerometer	$\pm 8 \text{ g}$
Sample frequency (Hz)	100
Maximal Supply Voltage (VAC)	5 V $\overline{\text{---}}$ 3 mA
Battery	Built-in rechargeable lithium polymer battery, 450 mAh
Full charge cycle	1 hour full charge cycle
Connectivity	Bluetooth Low Energy 4.0
Bluetooth range (m)	15
Compatibility	Android
Recommended range of temperature	5°C to 35°C

SUIFF® PRO SENSOR DETAILS**On/off button**

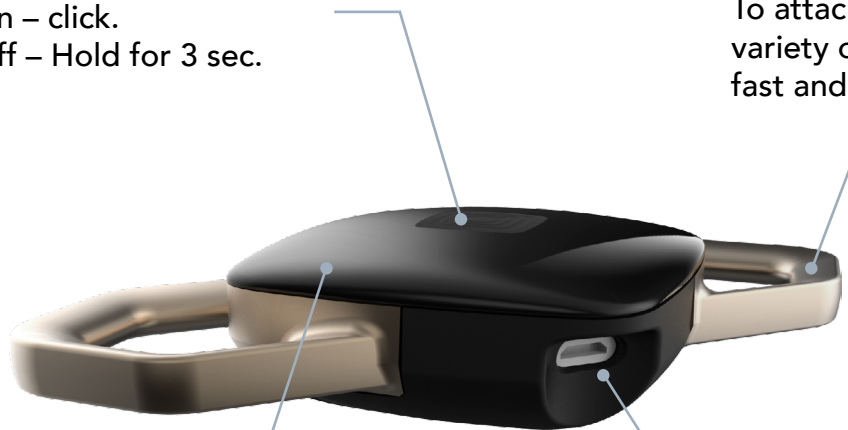
Switch on – click.

Switch off – Hold for 3 sec.

Anchor handles

Aluminium alloy.

To attach the device to a wide variety of exercise machines in a fast and easy way.

**Body**

PCB+ABS and thermoplastic vulcanizates (TPV).

Micro USB connector

To charge the battery with a USB cable (USB A male Micro USB B male).

CORRECT USE OF THE SUIFF® PRO SENSOR



WARNING! PLEASE USE THE SUIFF® PRO SENSOR CORRECTLY AS DESCRIBED IN THIS USER'S MANUAL. PAY SPECIAL ATTENTION TO OUR SAFETY RECOMMENDATIONS AND KEEP UNATTENDED CHILDREN AWAY FROM THE DEVICE AND ITS ACCESSORIES.

The SUIFF® PRO sensor and its accessories do not require any difficult or complicated operations but should be used under professional supervision.

The SUIFF® PRO sensor and its accessories can be used in any suitable space for the practice of sport such as home, a garden, a fitness centre or any public area that is appropriate for sport activities like parks, promenades or sports centres.

Both the SUIFF® PRO sensor and its accessories can be used outdoors at a temperature between +5°C and +35°C but they should not be used when raining or be immersed in any liquid.

The SUIFF® PRO sensor can be used by children over 8 and by people with no experience or specialist knowledge if they know how to use the device and its accessories in a safe way and understand the risks involved.

MAXIMUM ALLOWED LOAD

The maximum traction load allowed by the SUIFF® PRO sensor is **180 kg**.

If this maximum load of **180 kg** is exceeded, the device's measuring system or its internal sensor might be affected leading to incorrect functioning.



WARNING! THE SUIFF® PRO SENSOR PROVIDES A STRUCTURAL SAFETY MARGIN OVER THE MAXIMUM LIMIT LOAD WITHOUT RISKING THE STRUCTURAL INTEGRITY OF ITS ANCHOR HANDLES OR THE INTEGRITY OF THE USER.

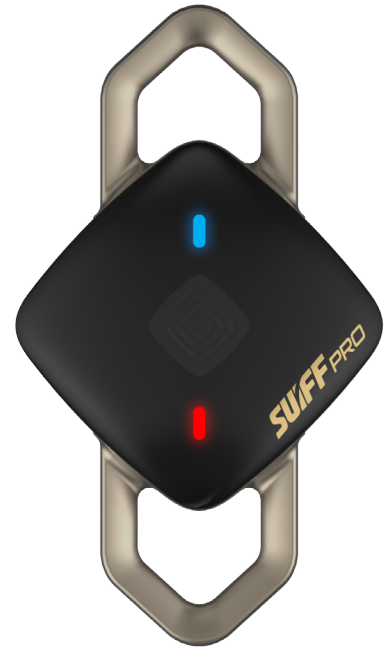
LED MODES



Upper led
Green light flashing
Sensor on



Upper led
Permanent blue light
Sensor connected to mobile
device



Lower led
Red light flashing
Low battery, recharge battery

CLICK PATTERNS

To start the SUIFF® PRO sensor, press the power button once. The upper smart led will start blinking green, which indicates the device is on.

To switch the SUIFF® PRO sensor off, press the power button for three seconds until the upper smart led goes off. Your device is off if the two led lights are inactive.



Sensor on



Sensor off

WARMING UP

It is advisable to allow the sensor a short warm-up time of at least one minute before you start training in order to get exact and stable readings. This is the warm-up time required by the SUIFF® PRO sensor.



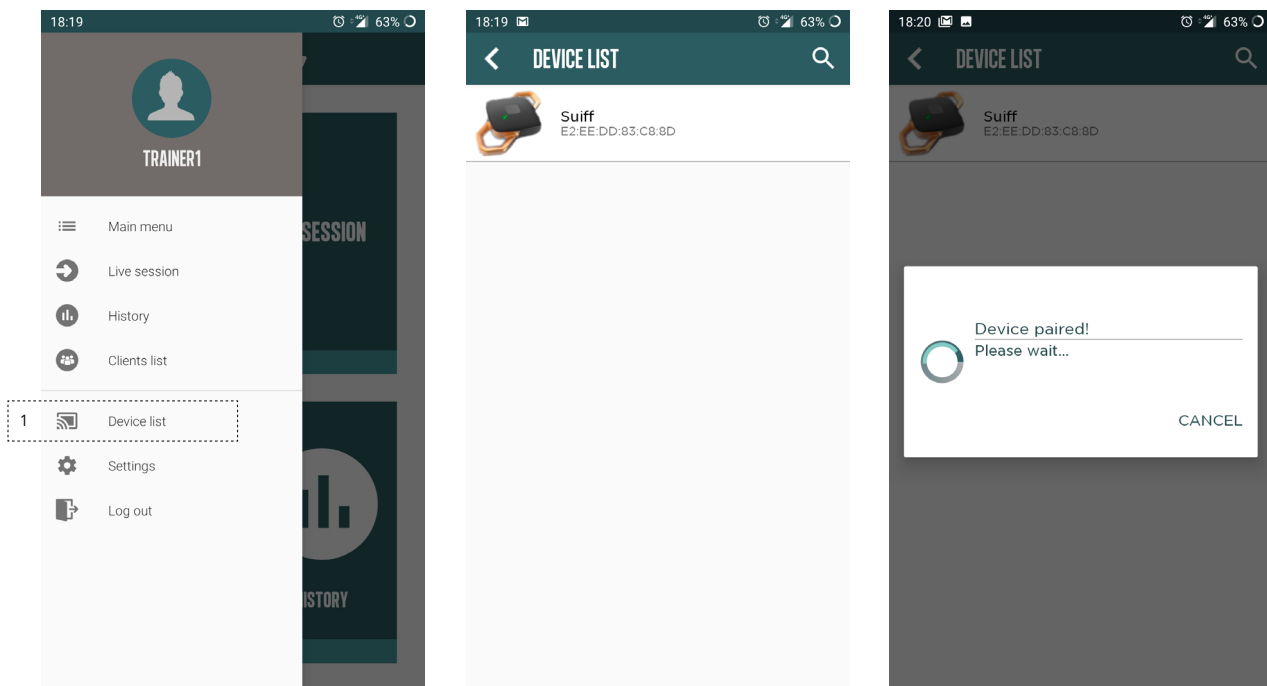
WARNING! NOT RESPECTING THE WARM-UP TIME MAY SLIGHTLY AFFECT THE PRECISION AND ACCURACY OF FORCE MEASURES.

CONNECTING THE SENSOR WITH THE APP AND CALIBRATING TO ZERO

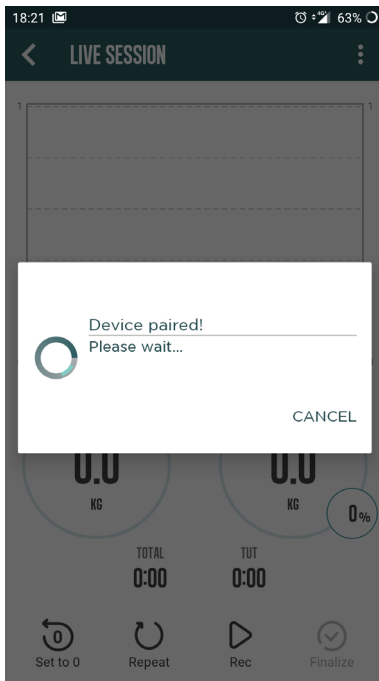
Switch on the SUIFF® PRO sensor and open the SUIFF® PRO App on your mobile device.

Keep the SUIFF® PRO sensor on for at least 1 minute (warm-up time) before connecting it to your mobile device to start training. To pair your SUIFF® PRO sensor with your mobile device:

A. Go to DEVICE LIST (1) and find your SUIFF® PRO sensor on the DEVICE LIST, select it and follow the instructions provided to connect and calibrate your SUIFF® PRO sensor.



B. Alternatively, you can also pair your SUIFF® PRO sensor with your mobile device going to LIVE SESSION.



Calibrating to Zero

Right after pairing your SUIFF® PRO sensor with your mobile device, the sensor automatically carries out a quick and simple calibration process to zero.

Please, to zero calibrate your device, make sure (as indicated in the SUIFF® PRO App) you do not apply any traction force on the handles of the sensor as this could affect the accuracy of force measurements.

If you have any doubt or think that you have applied excessive or undue force on the sensor while carrying out the calibration process, simply disconnect your SUIFF® PRO sensor from your mobile device and connect it again to start the calibration process anew. Your SUIFF® PRO sensor will quickly be ready for you to start recording force!

Manual Adjustment to Zero

From the LIVE SESSION screen, you can readjust to zero whenever you like. That means that the sensor must show a force of 0 Newtons (N).

It is basically the same process of calibrating to zero that is carried out automatically after connecting your device but, in this case, it is done manually.

To manually adjust to 0, click the left button SET TO 0. The adjusting process will take approximately 5 seconds.

The most common situations in which you may need the SET TO 0 tool are the following:

Removing fluctuations due to temperature

Since this kind of devices are sensitive to changes in temperature and/or humidity, big variations in temperature might slightly alter the 0 value in your device and therefore affect the level of precision of your measurements.

Use the SET TO 0 tool if, even when no force is applied, you detect a clear alteration of the 0 value in the force records and you want to correct the accumulated error.

The images below show a measurement in which no force is applied to the sensor but gives a fluctuation of ~2.0 N for the 0 value (left) and, when pressing the SET TO 0 button, the error is corrected (right).



Including the weight of the device in the measurements

The weight of the sensor (~120 g) must be taken into account on many of the occasions when force is measured.

On these occasions, if you want to get exact measurements, before starting a session, you can manually adjust to 0 with the sensor lying on a flat surface and applying no force to it. In this way, your sensor will also record its own weight (~120 g).

However, since the SUIFF® PRO sensor is so light, this adjustment will hardly affect the exact levels of force measurements.

Removing the weight of external accessories from the measurements

If you install your SUIFF® PRO sensor with any accessories attached (handles, bands, etc.) hanging loose and you do not want the sensor to record their weight, use the SET TO 0 tool before you start the measurements.

To do this, when the sensor is ready and the accessories are hanging from it with no movement, click SET TO 0 before starting any force measurement.

AUTOMATIC SWITCH-OFF FEATURE

To switch off the SUIFF® PRO sensor, press the power button for 3 seconds, until the upper smart led goes off. The SUIFF® PRO sensor is correctly off if both led lights are inactive.

If you forget to switch your sensor off doing this, the SUIFF® PRO sensor has a smart auto shut-off system to control battery life.

The SUIFF® PRO sensor will automatically shut off in the following situations:

- A. When disconnecting the sensor from the mobile device (the upper smart led will flash green) and not connecting it again in the next 5 minutes.

 - B. Keeping the sensor completely still for 10 minutes, regardless of whether or not it is connected with your mobile device.
-

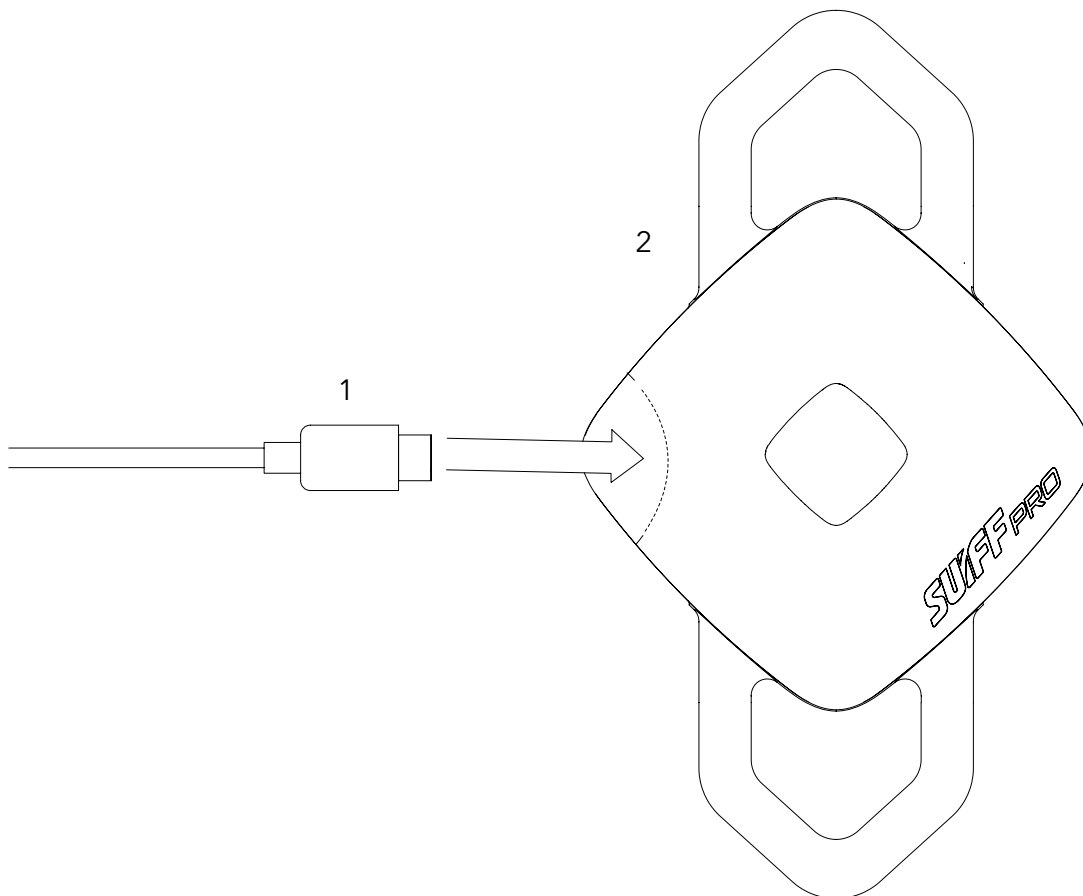
CHARGING THE BATTERY

The lower smart led will flash red when the battery level is low and it needs to be recharged.

The battery of the SUIFF® PRO sensor can be easily charged using the micro USB cable, included in your SUIFF® PRO kit.

Connect the micro USB cable to your SUIFF® PRO sensor. Connect the other end of the cable to a USB device or a USB power outlet. Make sure the charger is compatible with the SUIFF® PRO hardware.

Recommended operating voltage 5 V $\overline{\text{---}}$ 3 mA.



BLUETOOTH RECOMMENDATIONS

To avoid any connectivity problems between the SUIFF® PRO sensor and the mobile device, place them close to each other.

Make sure both of them are within maximum Bluetooth range (15 m).

Make sure there are no physical obstacles between the SUIFF® PRO sensor and the mobile device you want to pair it with (smartphone or tablet), including people, walls, corners or fences.

CHOOSING THE RIGHT PLACE TO USE SUIFF® PRO

It is advisable to do your force measurement sessions with the SUIFF® PRO sensor and its accessories on a non-slippery floor in order to better keep your balance and prevent any accident that can harm you or damage the equipment.

Make sure you have at least 1 metre of free space around you so you can use the SUIFF® PRO sensor and its accessories in a comfortable way.

SAFETY INFORMATION



WARNING! SUIFF® PRO EQUIPMENT DOES NOT PREVENT PHYSICAL INJURY. IMPROPER USE OF SUIFF® PRO EQUIPMENT MAY CAUSE SERIOUS PHYSICAL DAMAGE. IN CASE OF DOUBT, CONSULT A SPORTS PROFESSIONAL.

- Use only accessories and products recommended by the manufacturer.
 - Keep the SUIFF® PRO sensor away from humidity. Prevent water from entering the sensor.
 - Keep the hardware parts away from any conductive elements, such as metal or liquids.
 - Keep the device away from heat and vibration.
 - Keep the sensor away from any vibration source.
 - Do not store the SUIFF® PRO sensor in extremely hot or cold places. The recommended range of temperature is between 5°C and 35°C (41°F and 95°F).
 - Do not touch the device and its charger cable with wet hands while the battery is charging.
 - Do not use SUIFF® PRO outdoors in rainy or stormy weather.
 - Switch the device off in any hazardous or explosive environment.
 - Before doing an exercise, make sure the device is properly anchored to the accessories you are using and there is no risk to your health.
 - For a correct functioning, hold the SUIFF® PRO sensor using its anchoring handles.
 - When attaching the SUIFF® PRO sensor to any of the SUIFF® resistance bands or any other accessory, make sure the carabiners are properly placed and the gate shut.
 - Do not apply any torsion force on the handles of the sensor. This could affect its calibration and consequently the accuracy of force measurements.
-

- Do not apply any compression forces on the device. Doing this could damage it.
- Avoid any direct impact on the SUIFF® PRO sensor. This could decalibrate the device and affect its correct functioning and/or some of its components could be permanently damaged.
- If the device is damaged, broken or if it overheats, stop using it and consult our technical assistance service.
- Observe road safety rules on mobile devices use while driving.
- Prevent children and pets from putting the device into their mouths.
- Do not hit your eyes, ears or any other part of your body with the device.
- In case of developing a skin eruption or an allergic reaction, stop using the device and consult your dermatologist.
- **Important!** Before using the sensor, always check that the SUIFF® PRO carabiners and the fabric and seams of the EXPRESS SUIFF® flat sling are in good condition.



WARNING! ONLY THE MANUFACTURER CAN OPEN THE DEVICE. FOR SAFETY REASONS, ONLY THE MANUFACTURER CAN DISASSEMBLE, FIX OR MODIFY ANY COMPONENT OF THE SUIFF® PRO SENSOR OR OF ITS ACCESSORIES. FAILING TO DO THIS COULD DAMAGE THE PRODUCT AND THE USER.

EXERCISES AND RECOMMENDATIONS



WARNING! BEFORE DOING ANY PROGRAMME OF PHYSICAL EXERCISES, PLEASE CONSULT YOUR PHYSICIAN.

- Read all the instructions before using the SUIFF® PRO sensor and its accessories. Incorrect or excessive training may cause health problems. Use SUIFF® PRO equipment under professional supervision.
- If you feel pain or vertigo while training, stop exercising and cool down. This is particularly important for those people who have had some health problem.
- The SUIFF® PRO sensor and its accessories have been mainly designed to do static and dynamic exercises to work the muscles of the upper and lower limbs.
- Please make sure you choose the right exercises for you according to your fitness level.
- SUIFF® will not be liable for any personal injury or damage to any property that may arise from its use.

HOW TO ANCHOR THE SUIFF® PRO SENSOR

Attach the Suiff® Pro sensor to a fixed point

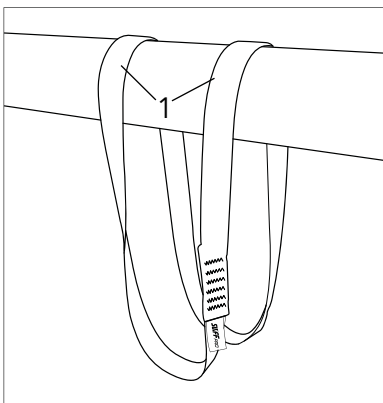
With the EXPRESS SUIFF® flat sling and the SUIFF® PRO carabiners you can easily and safely attach the SUIFF® PRO sensor to any fixed point.

Choose a resistant and stable anchor point, for example a tree, lamppost, rail or fixed bench.

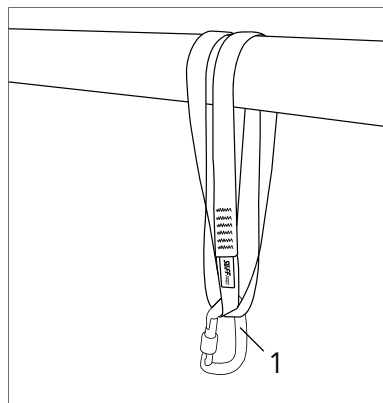
The SUIFF® PRO sensor can be attached in two different ways:

- A. Place the EXPRESS SUIFF® flat sling (1) on the anchor point so that it hangs equally on both sides.
- B. Then, attach both ends of the EXPRESS SUIFF® flat sling to a SUIFF® PRO carabiner (1). Your EXPRESS SUIFF® flat sling is now correctly secured to a fixed point.
- C. Finally, attach one of the handles of the SUIFF® PRO sensor (1) to the carabiner. Your sensor is now correctly attached to the fixed point.

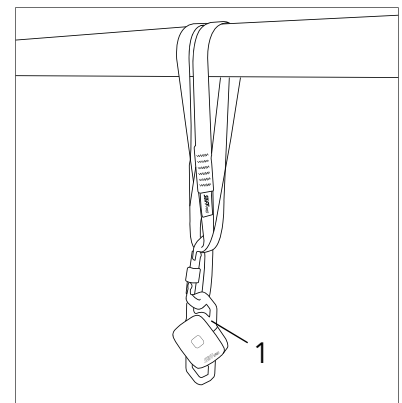
A.



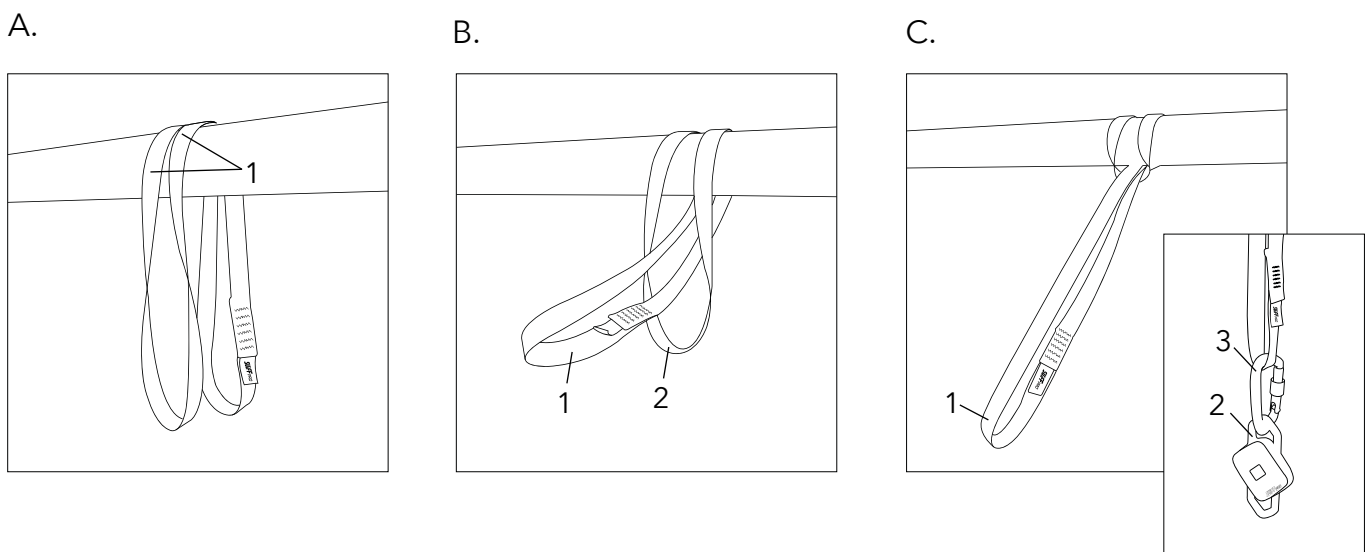
B.



C.



- A. Place the EXPRESS SUIFF® flat sling (1) on the anchor point so that it hangs equally on both sides.
- B. Then, pass one of the ends of the EXPRESS SUIFF® flat sling (1) through the loop at the other end (2).
- C. Finally, pull the end (1) so that the sling is firmly anchored and hanging. Attach a SUIFF® PRO carabiner to one of the handles of the sensor (2) and then attach the carabiner to the hanging end of the flat sling (3). Your sensor is now correctly attached to the fixed point.



Once the SUIFF® PRO sensor is securely attached to the fixed point, use the free handle of the sensor to attach the accessory or part you need to start training (handle, rigid strap, resistance band, suspension training system, etc.)



WARNING! BEFORE USING THE SENSOR, MAKE SURE THAT THE SUIFF® PRO CARABINER AND THE FABRIC AND SEAMS OF THE EXPRESS SUIFF® FLAT SLING ARE IN GOOD CONDITION.



WARNING! WHEN USING ACCESSORIES OR PARTS THAT ARE NOT INCLUDED IN THE SUIFF® PRO KIT (HANDLES, RIGID STRAPS, SUSPENSION TRAINING SYSTEMS, ETC.) MAKE SURE THAT THE CARABINERS ARE IN GOOD CONDITION AND CAN SAFELY WITHSTAND THE TRACTION FORCE TO BE APPLIED.

MAINTENANCE

In order to get the best performance of your SUIFF® PRO sensor and its accessories, please follow the following care recommendations.

Switch the SUIFF® PRO sensor off before cleaning it.

TYPE OF MAINTENANCE	FREQUENCY	RESPONSIBLE	PROCEDURE
Cleaning the SUIFF® PRO sensor	After each use	User	Clean with a dry or slightly wet cloth
Visual check-up of structural elements	Before each use	User	Visual check-up. Replace if necessary
Calibrating the SUIFF® PRO sensor	Every two years	SUIFF® Technical assistance service / User	Get in contact with SUIFF® technical assistance service
Fine-tuning of equipment	Every two years	SUIFF® Technical assistance service	Get in contact with SUIFF® technical assistance service

PROBLEM SOLVING

Switching your device on:

- If your SUIFF® PRO sensor does not power on when pressing the on/off button, make sure the battery is charged.
- If, after charging the battery for at least 15 minutes, your sensor does not power on, make sure the USB cable is in good condition and works well.
- If, after charging the battery, your sensor does not power on, please get in contact with SUIFF® technical assistance service.

Pairing your sensor with your mobile device:

- If your SUIFF® PRO sensor is not connected to your mobile device, smartphone or tablet, make sure the sensor is on, Bluetooth and your device's location are also on and they are close to each other.
- If the SUIFF® PRO mobile App indicates that there is a sensor connected (see DEVICE LIST in the App menu) but the sensor is not connected, make sure it is not connected to another SUIFF® sensor nearby.
- If your SUIFF® PRO sensor can still not connect to your mobile device, restart your mobile App, switch the device off and then on and try to connect it again.

Measuring forces in your sessions:

- If, during the measurements, the sensor does not detect any changes in the levels of force on the screen, make sure your sensor is properly placed.
- If the sensor still cannot register the level of force or if you think the SUIFF® PRO sensor is measuring levels of force that are very different from usual, this may mean that the CALIBRATION TO ZERO, which happens right after connecting the sensor to your mobile device, was not done correctly. Please, disconnect the sensor from your mobile device and connect it again to repeat the CALIBRATION TO ZERO process following the instructions in the App. You can also easily calibrate to zero without disconnecting your device, simply press the SET TO 0 button on the screen.
- If the sensor has been exposed to any kind of accidental strong impact and in subsequent sessions, you notice that it is measuring levels of force that are very different from usual, your sensor may be permanently uncalibrated due to that impact. In this case, get in contact with our technical assistance service.



DANGER! PLEASE DO NOT TRY TO FIX ANY ELECTRICAL, ELECTRONIC OR STRUCTURAL PROBLEM RELATED TO THE FUNCTIONING OF THE DEVICE OR ITS ACCESSORIES. GET IN CONTACT WITH ESTEL SL TO HAVE YOUR DEVICE EXAMINED AND FIXED. FAILING TO DO SO COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE PROPERTY. NO MODIFICATION IS ALLOWED TO THIS DEVICE OR ITS ACCESSORIES.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENTS



This symbol in our products, accessories or documents indicates that the product and its electronic components (e.g. the Micro USB cable) must not be disposed of in household waste. This WEEE complies with the RoHS Directive.

Please use appropriate household waste recycling centres to dispose of any electrical and electronic equipment. Contact your council or seller to find your nearest household waste recycling centre.

DISPOSING OF THE EQUIPMENT

The SUIFF® PRO sensor and its accessories are made of recyclable materials. Please dispose of the device and/or its accessories in accordance with local regulations for electronic waste.

Disposing of the protective packaging

Packaging prevents damage during transport. The packaging materials have been selected according to environmental criteria and waste disposal methods and therefore they are recyclable.

Disposing of waste electrical and electronic components

Unwanted electrical and electronic components have reusable elements that cannot be disposed of and cannot be thrown into household waste since they could allow potentially hazardous substances into groundwater and end up in the food chain affecting the health and wellbeing of living beings.

Please use appropriate household waste recycling centres to dispose of any electrical and electronic equipment. Contact your council or seller to find your nearest household waste recycling centre.

To the extent permitted by local norms and regulations, neither SUIFF® nor its providers will in any event be liable for any direct, indirect, special, accidental or emerging damage.

The manufacturer and the distributor will not be held liable for any personal injury resulting from the SUIFF® PRO sensor and its accessories or for any damage to the equipment if:

The device or its accessories are used incorrectly.

The recommendations in the instructions are not observed or are wrongly interpreted.

Maintenance or repair work is done by unauthorised personnel.

DISCLAIMER

Do not use the SUIFF® PRO sensor and its accessories in any of the following situations before consulting your physician:

Pregnancy, serious blood circulation problems such as thrombosis, cardiovascular problems, diabetes with complications such as neuropathy or retinal damage, rehabilitation after eye surgery, pacemakers use, unhealed fractures, recent surgery, epilepsy, migraine, slipped disc, spondylolisthesis, spondylolysis or spondylosis, recent articular cartilage or IUD replacements, surgical needles, staples or plaques or any other worry concerning your physical health.

WARRANTY



WARNING! FOR SAFETY REASONS, ONLY PERSONNEL AUTHORISED BY THE MANUFACTURER CAN DISASSEMBLE, FIX OR MODIFY ANY COMPONENT OF THE SUIFF® PRO SENSOR OR OF ITS ACCESSORIES. FAILING TO DO THIS COULD DAMAGE THE PRODUCT AND THE USER. THIS WARRANTY IS VOID IF THE PRODUCT HAS BEEN REPAIRED BY AN UNAUTHORIZED SERVICE CENTER.

SUIFF® guarantees that all safety requirements are met only regarding genuine replacement parts. Defective components can only be replaced by genuine parts.

The warranty period is two years starting at the date of original retail purchase and six months for any repairs.

For further information about warranty regulations and responsibility, please visit www.suiff.com

Estel, SL
Can Noguera, 19, Nave 1-2
08630 – Abrera (Barcelona)

EU CONFORMITY DECLARATION

This declaration is issued under the sole responsibility of the manufacturer.
We declare under our sole responsibility that the product

TRACTION FORCE SENSOR

Brand	SUIFF® PRO
Model	S2

is in conformity with the relevant Community harmonisation legislation:

Electromagnetic Compatibility Directive (2014/30/EU)
The Waste Electric and Electronic Equipment (WEEE) Regulations
(2012/19/UE)
RoHS II Directive (2011/65/UE)

and meets all the harmonised European standards:

ETSI EN 301 489-17 V3.1.1; EN 55032:2015; EN 61000-4-3:2006 + A1:2008
+ A2:2010; EN 61000-4-2

Ms. Montserrat Subirana Clèric
CEO




Barcelona, January 2020

CUSTOMER SERVICE

SUIFF®

ESTEL SL

Can Noguera 19 Nau 1 | 2

08630 Abrera, Barcelona (España)

support@suiff.com

Follow us on:   

© 2018 SUIFF. All rights reserved.