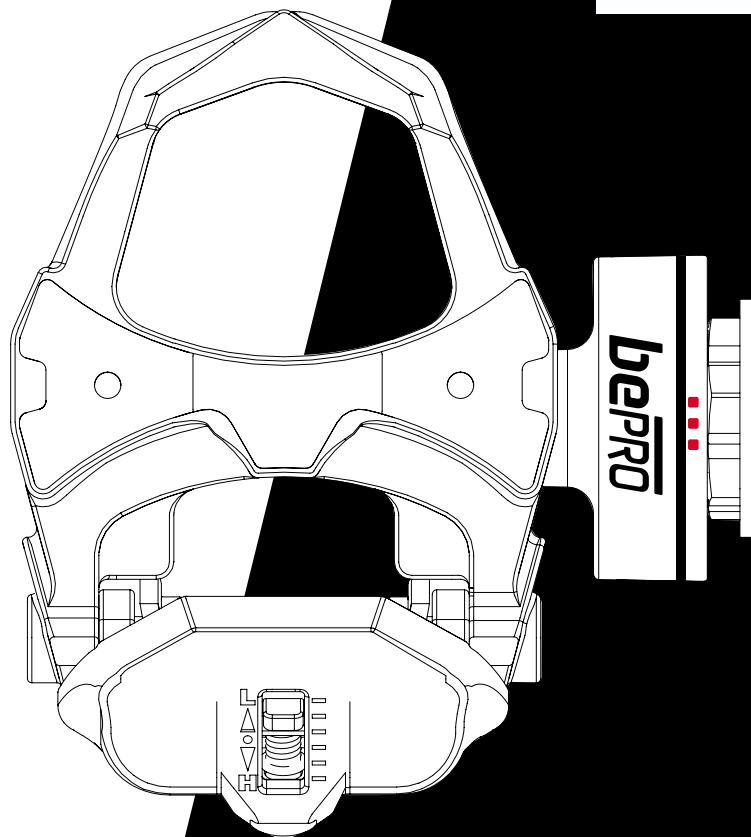


bePRO

POWER METER FOR
CYCLING

EN



0259-09.00_R05

USE AND INSTALLATION MANUAL




CE



PACKAGE CONTENT

bePRO version: left and right pedal with power sensor.

bePRO  version: left pedal with power sensor, right pedal without power sensor.

- Left pin and right pin for template assembly.
- Template for application of alignment labels.
- 8 mm hexagonal wrench.
- 21 mm combination wrench.
- 4 **bePRO** alignment labels.
- 4 washers.
- 2 red cleats (6°).
- Battery charger with:
 - EU, US, UK, AU plug adaptors (IEC Types C, A, G, I).
- 2 USB/micro USB cables (2 meter-long).
- 2 micro USB protective port covers.
- Safety manual.
- Guarantee (to be completed and kept with the purchase receipt).

1. Quick start

- Stick on the alignment label (Chapt. 4.1 e Chapt. 4.2).
- Install **bePRO** (Chapt. 4.3).
- Recharge completely the batteries (Chapt. 8 and Chapt. 9).
- Switch on **bePRO** (Chapt. 7).
- In case of first use, connect **bePRO** with your cycling computer, (Chapt. 10), configure the fields related to power (Chapt. 12) and set the crankarm length (Chapt. 13).
- Perform the static calibration, before each use (Chapt. 14).
- Perform the dynamic calibration (Chapt. 15) after every installation.

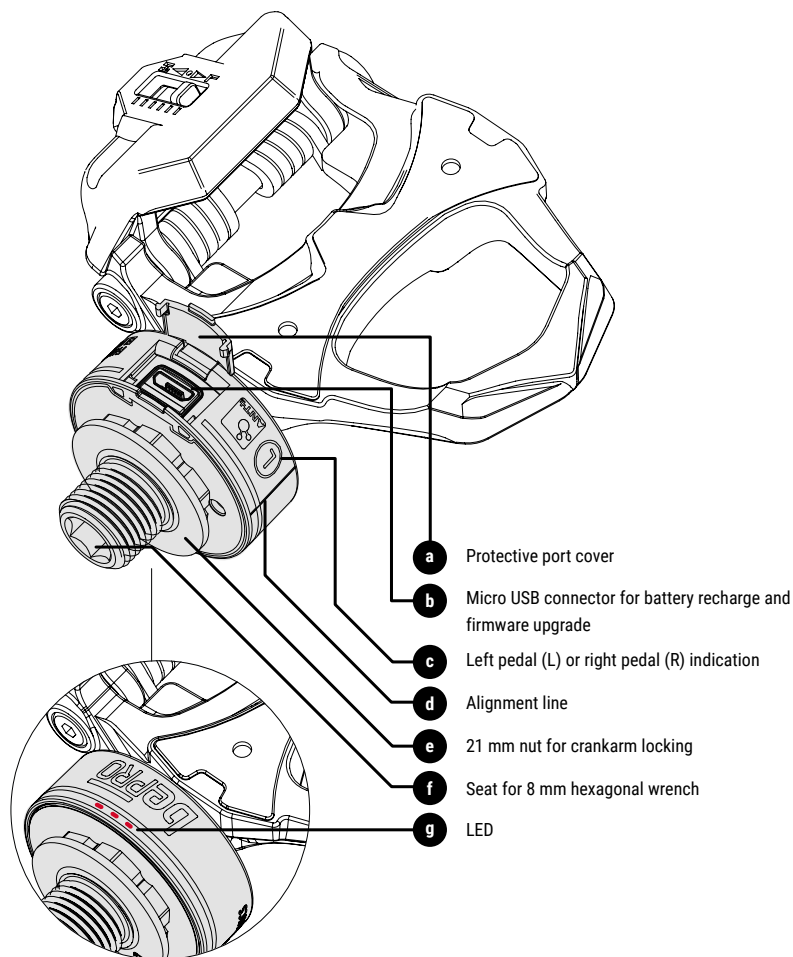
2. Warnings



- Please carefully read this manual and the safety manual before installing the product. An incorrect installation may lead to accidents and possible damage to things and/or injury to people.
- If you have any doubts about your ability to install the product, we recommend you ask for the assistance of a specialized mechanic.
- It is advisable to tighten the lock nut using a torque wrench (with 3/8" adaptor) with the specific optional tool art. 771-82.
- An incorrect installation of the product may cause or result in irreparable damage not covered by the guarantee. Tightening with a torque lower than 35-40 Nm may compromise alignment and therefore the sensor's precision.
- Do not use **bePRO** with standard walking shoes without cleats as this may cause irreparable damage to the sensor.

3. Product description

bePRO is a pedal for racing bicycles with a hooking system compatible with the Look Kéo standard and provided with strain gauges to measure the force applied to the pedal. This pedal includes the function of a cadence meter and can calculate the power of a single leg in real time, sending it 4 times a second to the bicycle computer. It is compatible with the ANT+ PWR standard, rechargeable and completely waterproof.



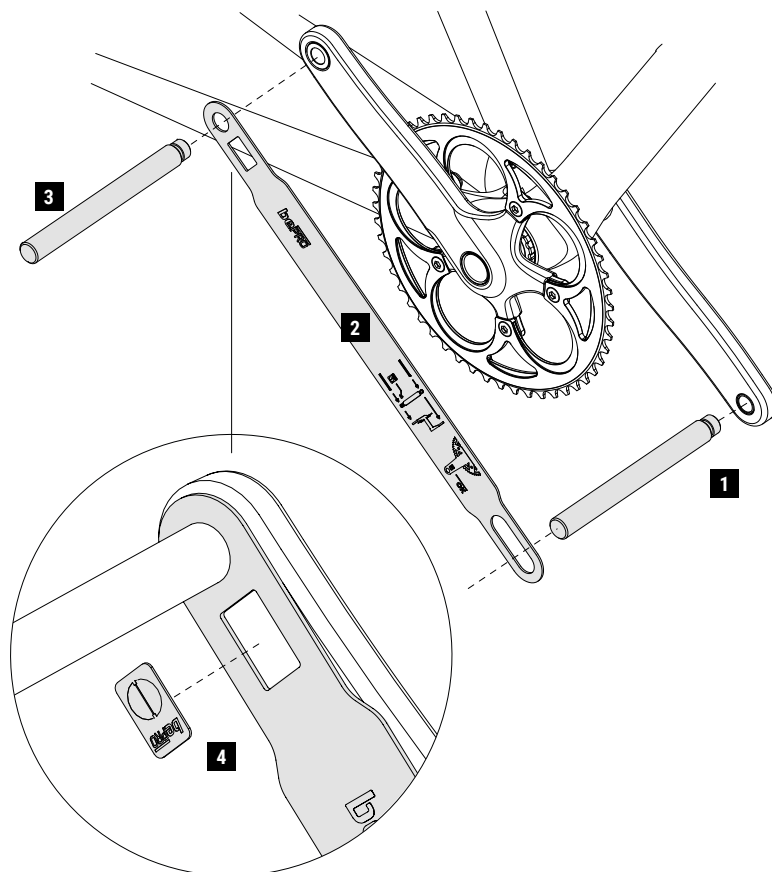
Visit YouTube channel: **Favero Cycling**
https://www.youtube.com/c/Favero_cycling
to see the detailed video installation.



4. Application of the alignment labels

4.1. Crankarm preparation

Remove the existing pedals and clean the crankarm ends, where the label will be applied, with a natural detergent.



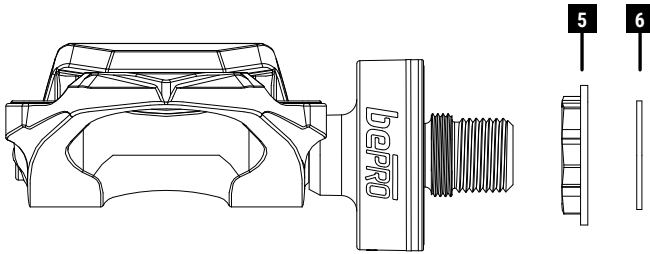
4.2. Application of the bePRO alignment label

Use accessories **1**, **2** and **3** provided to apply label **4** for the alignment of the sensor. Repeat the operation for both crankarms if you are using the version with double sensor.

5. bePRO installation

5.1. bePRO preparation

Take lock nut **5** and washer **6** from the **bePRO** package (to be used only if the crankarm has a recess on the pedal bolt end).

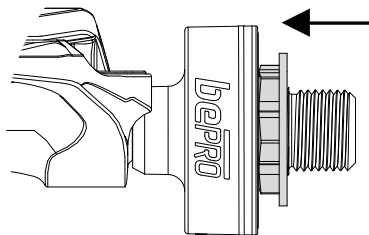


5.2. Lock nut tightening

Manually tighten lock nut **5**, but **without forcing**, until it is in contact with **bePRO**.

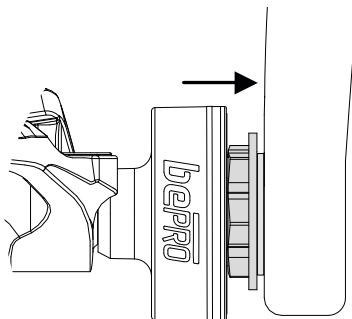


DO NOT use wrench **10** for this operation as you may damage the power meter irreparably.



5.3. bePRO tightening

Manually tighten **bePRO**, but without forcing, until it is in contact with the crankarm.



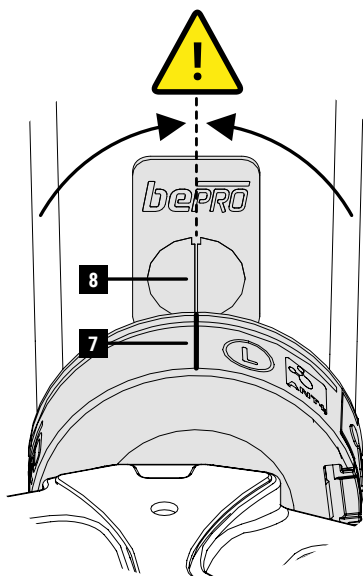
NB:

- tighten the right pedal to the crankarm screw **clockwise**;
- tighten the left pedal **counter clockwise**.

5.4. bePRO alignment



Manually loosen **bePRO** by **half a turn**. Then continue until alignment line **7** perfectly matches with label line **8**



5.5. Lock nut tightening



IMPORTANT RECOMMENDATIONS:

- Pay careful attention when screwing lock nut **5** on the crankarm. Rotating the lock nut in the wrong direction will irreparably damage the power meter.

Any damage caused shall not be covered by the warranty.

- To tighten the RIGHT pedal, turn the lock nut **5** counter-clockwise, in the opposite direction of a normal lock nut.
- These recommendations must be kept in consideration for future product installations and removals. We suggest these recommendations are passed on to your mechanic in case of maintenance to the pedals or bicycle.
- The rotation directions indicated in this Chapter are valid when the pedals are in the position shown in the following pictures.
- Failure to observe the recommendations included in this Chapter will void the warranty.
- To see the detailed installation video, please visit the www.bepro-favero.com website.



When performing the procedure described below, keep line **7 and **8** aligned; minimum misalignments can be compensated with a dynamic calibration (Chapt. 15).**



To tighten the **LEFT SIDE** pedal:

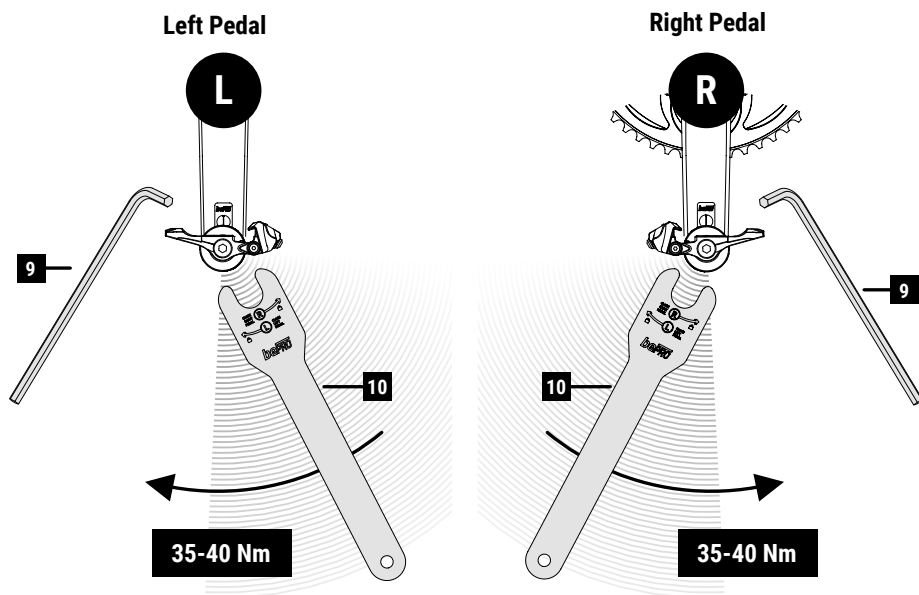
- hold wrench **9** in your **left** hand and insert it in the hole on the back of **bePRO** at an angle similar to that shown in the picture. Hold the wrench firmly to maintain a perfect alignment;
- hold wrench **10** in your **right** hand at an angle similar to that shown in the picture and tighten the lock nut **CLOCKWISE** taking care to remain within the grey highlighted area shown in the picture. For the correct tightening direction, refer to the indications for pedal **L** on the wrench;
- start tightening the lock nut slowly, holding wrench **9** firmly to maintain the alignment;
- If necessary, correct the alignment using only wrench **9**; If the lock nut is locked, never use wrench **10**, but **slightly** loosen the entire pedal by using only wrench **9** and repeating the procedure described in Chapt.5.2;
- when the lock nut is almost tightened on the crankarm, complete the installation by applying a tightening torque of 35-40Nm ¹.

¹ This torque corresponds to a force of about 20kg applied to wrench **10** end, which would be the maximum force a person can normally exert.

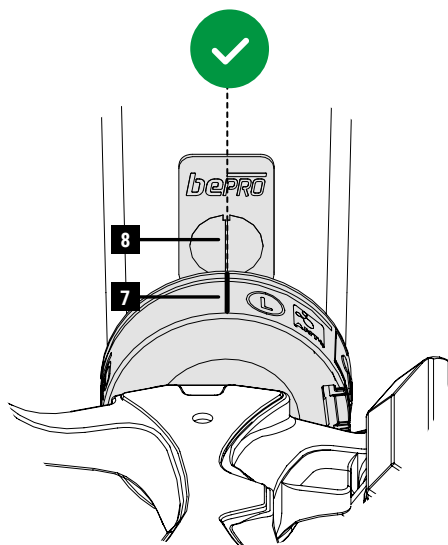
R

To tighten the **RIGHT SIDE** pedal:

- hold wrench **9** in your **right** hand and insert it in the hole on the back of **bePRO** at an angle similar to that shown in the picture. Hold the wrench firmly to maintain a perfect alignment;
- Hold wrench **10** in your **left** hand at an angle similar to that shown in the picture and tighten the lock nut **COUNTER-CLOCKWISE** taking care to remain within the grey highlighted area shown in the picture; For the correct tightening direction, refer to the indication for pedal **R** on the wrench;
- start tightening the lock nut slowly, holding wrench **9** firmly to maintain the alignment;
- If necessary, correct the alignment using only wrench **9**; If the lock nut is locked, never use wrench **10**, but **slightly** loosen the entire pedal by using only wrench **9** and repeating the procedure described on Chapt.5.2;
- when the lock nut is almost tightened on the crankarm, complete the installation by applying a tightening torque of 35-40Nm ¹.

**i**

A torque of less than 35-40Nm could lead to a rotation of the pedal after a few rides and the consequent misalignment of lines **7** and **8**. In no case this will be a risk for the person or the bicycle. The tightening torque is not related to the accuracy of the power measurement. Minimum misalignments can be corrected with a dynamic calibration.



5.6. bePRO alignment check

After installation, check the correct alignment of lines **7** and **8** as shown in the picture. A minimum misalignments can be corrected with a dynamic calibration (Chapt.15). Misalignment is acceptable if the calibration result is within the range indicated for both pedals. In this case it will not be necessary to repeat the alignment of the pedals.

If after a few rides you notice a misalignment of lines **7** and **8**, repeat the dynamic calibration. If the calibration result is within the range indicated in Chapt. 15, it will not be necessary to repeat the alignment of the pedals.

6. bePRO removal



To remove **bePRO** use **EXCLUSIVELY** wrench **9**:

- turn the LEFT pedal **CLOCKWISE** (as indicated in the picture);
- turn the RIGHT pedal **COUNTER-CLOCKWISE** (as indicated in the picture).

Never loose the lock nut with wrench **10**. Use only the hexagonal wrench **9**.

7. Switching on and off



The first time you switch bePRO on, connect the battery charger supplied to an electrical socket and disconnect it after few seconds: bePRO will switch on.

Switch **bePRO** on by manually turning the pedals or cycling at a cadence lower than 60 rpm; LEDs will rapidly blinking for 2 seconds. The bicycle computer should automatically detect the **bePRO** sensor; if it doesn't, check the connection to the computer (Chapt.11). **bePRO** will automatically switch off after 5 minutes of inactivity and automatically switch on when cycling at a cadence lower than 60 rpm.

8. Static calibration



bePRO has a rechargeable lithium-ion battery with a 30 hour life with normal use. The effective battery life may decrease due to some factors, such as incorrect charging procedures, number of recharges, external temperature, etc.

The capacity of the internal batteries may gradually decrease if they are continuously discharged until completely exhausted. **Instead, frequently charging the batteries (included when they are partially charged) helps preserve their capacity during the product operating life. If the product is not used for long periods, recharge at least every 4 months, otherwise there would be risk of damaging the product irretrievably.**

Before starting, make sure that the micro USB connector port covers are well closed. In any case, the micro USB connector port is watertight and, even without the covers, the product is perfectly safe and protected against water infiltrations.

While charging, ensure that the two cables are not pulled tightly!
This may damage the **bePRO** micro USB connector!

When the batteries are discharged, a warning is displayed on the bicycle computer. After the first low battery warning, the remaining battery life will be of about 4 hours.

To charge the batteries follow the procedure below:

- connect the battery charger supplied to an electrical socket
- connect the two micro USB cables to the battery charger
- open the micro USB connector covers of the **bePRO** sensors
- connect the two micro USB cables to the pedal connectors; the LEDs will switch on
- during charging, the pedals will blink approximately every 2 seconds (Chapt. 9); when the charging is complete, the pedals will switch off.

The complete charging of a completely discharged battery lasts about 6 hours.

9. LED behavior

Switching on:	Fast blinking for 2 seconds:
Normal operation:	Blinking every 5 seconds. ²
Charging:	² This function can be disabled using the <i>bePRO Updater</i> application. - 1 Blink: battery almost discharged - 2 Blink: battery half charged - 3 Blink: battery completely charged Switched off, charge completed.

10. Compatible bicycle computers

bePRO is compatible with all ANT+™ bicycle computers.

For the complete list of the ANT+™ certified products, visit the website:

<http://www.thisisant.com/directory/> (select "Bike Computers" in Categories).



It is advisable to install the latest firmware version available from the manufacturer of the bicycle computer!

11. Pairing to bicycle computer

Pairing is the procedure which makes it possible to connect **bePRO** to the bicycle computer. Pairing is based on an identification number consisting of 5 digits (e.g.: ID=00356) which is different for each power sensor. The ID number is indicated on exterior of the package. Switch on the bicycle computer and then **bePRO** (Chapt. 7).



Important warnings to avoid communication problems:

- Make sure that there are no other ANT+™ power meters in the vicinity (10 m)
- The bicycle computer must be within 2 m from the **bePRO**
- For some bicycle computers, it is advisable to temporarily disable all the other ANT+ sensors (heart-rate, cadence, ...).

11.1. Automatic pairing

Read the bicycle computer manual to learn how to activate the scan procedure. The "Scan" or "Search" button is normally available on the menu:

Settings - Bike settings - Bike profile - (profile name) - ANT+™ Power

- Within 5 minutes after having switched **bePRO** on, activate the search for new sensors on the bicycle computer.
- Wait for **bePRO** to be detected.

11.2. Manual pairing (recommended)

Within 5 minutes after having switched **bePRO** on, manually enter the ID (indicated on exterior of the package) in the specific page of the bicycle computer (read the computer manual).

12. Power fields configuration

After pairing (Chapt. 11), the bicycle computer must be configured to display the power data transmitted by **bePRO**: read the computer manual.

At least the following data should be set: 3 second power, 30 second power, cadence, 30 second average balance. It is also possible to set the following parameters: TE and PS (not available in the **bePRO** [®] version), average pedal stroke power, TSS, IF, Watt/kg power, Np power, power zone, % power, average balance, etc.



Disable, or better remove, the external cadence sensor: **bePRO** transmits the cadence autonomously.

13. Crankarm length

The crankarm length affects power calculation: an incorrect value will lead to incorrect power values. The factory default length is 172.5 mm.

The crankarm length can be changed using the bicycle computer (read the computer manual) or the software **bePRO Updater** (Chapt. 18).



The bicycle computer might update the **bePRO** crankarm length on the basis of its internal value.

Therefore, always set the correct crankarm length on the bicycle computer.



Some bicycle computers may not have the above function; in this case, set the value using **bePRO Updater**.

14. Static calibration

Perform a static calibration just before starting to cycle or a few minutes after cycling has begun. With the static calibration it is possible to obtain the maximum accuracy on measuring power. Read the bicycle computer manual to learn how to start the calibration procedure.



PROCEDURE: The "Calibrate" button is normally available on the menu:
Settings - Bike settings - Bike profile - (profile name) - ANT+ Power

- Switch **bePRO** on.
- Release shoes from the pedals and get off the bicycle.
- Place the crankarms in the vertical position.
- Using the bicycle computer, disable all ANT+ sensors not installed on the bicycle (for example: cadence sensor, heart rate belt, etc.) because they may slow down or prevent the calibration procedure.
- Calibrate by pressing the "calibrate" button on the power meter menu of the bicycle computer.
- If the number displayed by the computer is not 0 (zero) or an error is reported, repeat the calibration.

15. Dynamic calibration

The dynamic calibration enables **bePRO** to accurately check the mechanical alignment of the pedals. It must be carried out every time **bePRO** is installed and repeated for the highest precision:

- after the first intense workout;
- if a misalignment of lines **7** and **8** occurs;
- periodically, every 3-6 months.



This procedure must be performed using the bicycle computer and checking the result obtained while cycling. Carry out the above procedure in safe conditions (e.g. on rollers or a straight road closed to traffic).

Procedure:



- Cycle in a regular manner at about **80 rpm** (± 5 rpm).
- **While continuing to cycle**, press the "Calibrate" button on the bicycle computer. **During this procedure the instantaneous cadence appears in the field where the calibration value is usually displayed.**

- Continue to cycle, make sure that the cadence ranges from 80 and +/- 5 rpm.



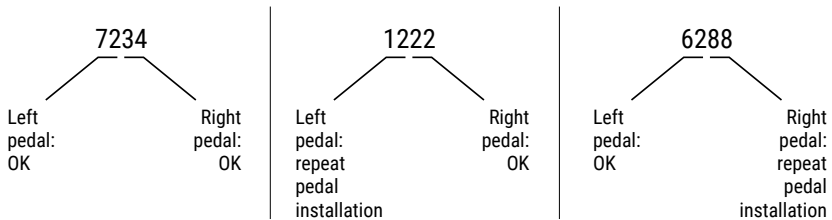
If the cadence is not included within the 75-85 rpm range or the pedal stroke is irregular, the calibration will fail and it will be necessary to repeat it.

- Continue to cycle for at least 30 seconds until a 4 digit number appears on your bicycle computer, in the field where the static calibration value is usually displayed. This number indicates the dynamic calibration value:
- the 2 digits on the left refer to the left pedal
- the 2 digits on the right refer to the right pedal.

The procedure result is successful if the two pairs of digits are within the range 15-85.

However, the values displayed are not related to the accuracy of the power measurement.

If after a few rides you notice a misalignment of lines **7** and **8**, repeat the dynamic calibration. If the calibration values are within the range indicated in Chapt. 15, it is not necessary to repeat the pedal alignment.



Some bicycle computers allow the calibration procedure to start but do not display the instantaneous cadence and the 4 digit number.

In this case, check the LEDs of both sensors as follows: if the result of the procedure is positive, the LEDs remain switched on for 15 seconds; if one or both **bePRO** sensor LEDs are blinking, repeat the installation of the relevant pedal (Chapt. 6 and Chapt. 5).



Visita il canale YouTube: **Favero Cycling**
https://www.youtube.com/c/Favero_cycling
 per vedere i video dettagliati relativi alle procedure di Calibrazione.



16. Cleats and shoes



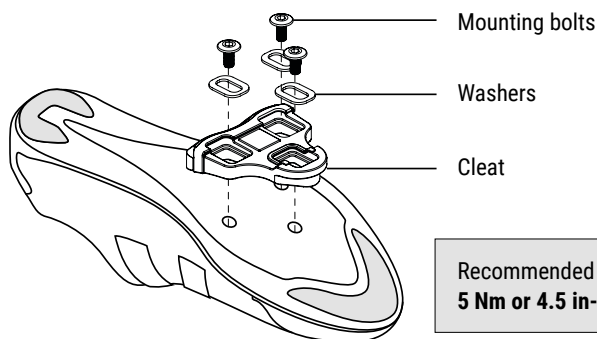
Carefully read and follow the instructions to avoid accidents and possible damage to things and/or injury to people.

Use only the supplied cleats or original LOOK KEO cleats.

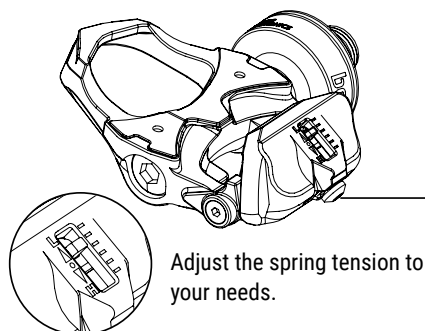
The use of compatible cleats may be unsuitable and may be a cause of damage to the product. In such case, the damage will not be covered by the warranty.

Before using bePRO, fasten and adjust the cleat to the shoe and hook the shoe to the pedal. Make sure that the sole of the shoe doesn't touch the **bePRO**'s external case. In this case, change the position of the cleat to obtain enough space between the shoe and **bePRO**.

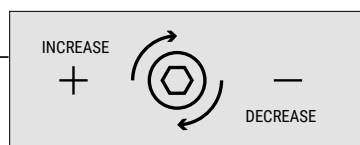
16.1 - Cleat fitting



16.2 - Adjustment of the cliless mechanism tightness



The spring force can be adjusted using the screw shown in the picture. To tighten, turn clockwise: to loosen, turn counter-clockwise.



3 mm hexagonal wrench (not supplied)

17. Upgrading bePRO S to the bePRO complete system

bePRO S measures power only on the left pedal. It is possible to purchase the right pedal with the power meter sensor (art. 771-55) at a later date and therefore pass to a system similar to **bePRO**. The left pedal must be upgraded to pair with the right pedal.

For more information visit www.bepro-favero.com.

18. bePRO Updater software

With **bePRO Updater** software:

- Firmware upgrade of the **bePRO** sensors is possible ;
- Some internal parameters (crankarm length, etc.) can be set ;
- If **bePRO S** is upgraded or one of the two pedals is replaced, it is possible to pair the **bePRO** right and left pedals;
- It is possible to modify determined advanced settings.

To download the **bePRO Updater** software and all the information on its use, visit www.bepro-favero.com website.

19. Inspection and maintenance



Carefully inspect the product before starting a cycling session; check all parts for damage, cracks, loose parts and signs of wear. Do not use the product unless you have carefully checked and replaced any worn or damaged parts.



The use of the product not in perfect conditions may cause accidents and possible damage to things and/or injuries to people as well as causing the early degradation of the product and its performance.

Clean **bePRO** with a damp cloth and remove debris with care.

Make sure that the micro USB connector is clean. While cleaning, make sure that the micro USB connector port cover is well closed. Do not use aggressive chemicals such as: gasoline, gas oil and petrol by-products in general, alcohol, industrial or all-purpose degreasers, etc. Do not use high pressure cleaners. Do not immerse the product. Periodically check that the pedal body nut is correctly tightened. Before every cycling session check that the pedals and cleats are properly working. If the cleats are worn out they may cause accidents: they must be replaced only with original Favero Electronics spare parts. Do not attempt to open or disassemble the product as you may damage it and invalidate the guarantee. Assistance must be carried out only by a specialized technician authorized by Favero Electronics. If the product is not used for long periods of time, it is advisable to remove the pedal from the bicycle and keep it in its original packaging. Store the product in an environment where temperatures are not high and humidity is not excessive to avoid permanent damage to the product. Fully charge at least every 4 months.

20. Spare parts

For more information on spare parts, visit the website www.buy.bepro-favero.com.

21. Copyright

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It is forbidden to reproduce this manual in full or in part unless explicit written consent is obtained from Favero Electronics.

The manufacturer reserves the right to improve or modify the product and this manual without any obligation of prior notice to private users or organizations. **bePRO**[®] is a registered trademark of Favero Electronics. LOOK and Kéo trademarks belong to LOOK Cycle International. All the other trademarks and registered trademarks belong to their corresponding owners.

22. Technical characteristics

Product code:	bePRO (art. 771-01), measures left and right pedal power
Radio protocol:	bePRO S (art. 771-02), measures left pedal power
Parameters:	ANT+™, 2.4 GHz wireless protocol instantaneous power (Watt), instantaneous cadence (rpm), L/R balance (%), torque efficiency (TE) ¹ , pedal stroke uniformity (PS) ¹
Min. and max. power:	0 - 2000 W
L/R balance :	0-100%
Max. and min. cadence:	30 - 180 rpm
Power measuring accuracy:	± 2%
Cadence sensor:	internal integrated
Internal battery:	30-hour life rechargeable lithium battery
Total weight of the pedal with sensor:	156 g
Sensor weight:	16 g
Pedal weight:	140 g
Pedal bolt material:	Cr-Mo steel (15CrMo5)
M16 nut material:	AISI 316L steel ruthenium plated.
Pedal body material:	NEP injection molded
Threading:	9/16"-20 tpi
Bearings:	n.3 sealed cartridge bearings
Minimum and maximum operating temperature:	-10 / 60 °C
Water resistance:	IPX7
Battery charger:	inlet 100-240 V, 50/60 Hz, 85 mA outlets 2xUSB 5V 1,0A
Certifications:	CE, RoHS, ANT+ PWR
Reference standards:	EN14038, EN60950
Compatible cleats:	Look Keo ²
Max weight of the cyclist:	120 Kg (265 lbs) ³
Guarantee:	2 years

¹ Not available for the **bePRO**® version

² The LOOK and Kéo trademarks belong to LOOK Cycle International

³ This product has been designed for cyclist's weight not higher than indicated.

Using this product by a user exceeding this weight is at his own risk.

This product is ANT+ certified and complies with the following specified ANT+ Device Profiles:
www.thisisant.com/directory





For further informations:

www.bepro-favero.com