



USER GUIDE



**To get the most out of your airbag belt Hip'Guard,
please read this manual carefully.**

*Tutorial videos can be consulted on the YouTube channel from
Helite.*

Product presentation	24
Quick user guide	25
General safety instructions	28
Technical description	29
Reusing the airbag system	34
Maintenance	37
Delivery & After Sales Service	38
Functioning and malfunctioning	39
Certification	40
Disclaimer	41

1. Product presentation

Hip'Guard is an airbag belt that protects the hip in case of a fall. When a fall is detected, the airbag inflates on the left or right hip depending on the fall direction and provides optimal protection before impact with the ground. Hip'Guard includes: an airbag belt, a protective cover, two gas cartridges and a USB cable.

A HipGuard



B USB cable



C Gas cartridge



D Belt



E Protective cover



A. Hip'Guard: the complete belt with airbag system.

B. USB cable: to recharge the belt with any USB port or USB charger on a phone or tablet.

C. 2 gas cartridges: to inflate the airbag to the right or left in the event of a fall. The cartridges are for single use only and must be replaced after each inflation. Only the gas cartridge on the side of the airbag that has been inflated must be replaced after a fall.

D. Airbag belt: integrates the electronic system and adapts to the person's body shape. The airbag belt is not washable.

E. Protective cover: avoids soiling the airbag belt, which is not washable. The cover is light, comfortable, removable and washable. It is recommended to always use the belt with the cover.

For whom?

Hip'Guard is designed for elderly people at risk of falling, or for people with mobility problems and at risk of falling. It is adapted for everyday use at home, in a nursing home or in a rehabilitation centre. It is not suitable for people with normal, or rapid mobility, as rapid and sudden movements can cause accidental triggering.

2. Quick user guide

a. Charging the belt

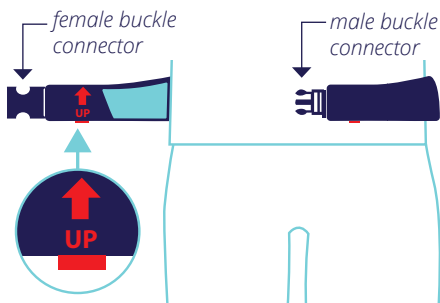
Before using the belt for the first time, the belt needs to be charged by connecting the charger to the belt buckle (see p. 32). The LED turns green once the battery is fully charged. Hip'Guard will not work if the battery is discharged.

Before using the belt on a daily basis it is essential to check that it is fully charged. If the battery is discharged, a red LED will flash and 3 short beeps will be heard every 30 seconds.

b. Positioning the belt

1. Checking the orientation

The red labels must point downwards. The UP arrow on the inside of the belt must point upwards. The light blue anti-slip material must be pressed against the body and in contact with the clothing.



2. Putting the belt on

The belt is placed around the waist and adapts to the body shape due to the elastic band. The blue material is in contact with the clothing and the buckle is closed.

The belt should be positioned at the hips below the navel. If the belt is too high or too low, the size is not correct (see p. 33).

The correct positioning of the belt

- The belt must be adjusted at the waist.
- The red labels must point downwards.
- The buckle must be positioned at the front and centred in relation to the pelvis. To close the belt, the female buckle connector (see p. 25) must be in the right hand. If the buckle is not centred, this will prevent the belt from working properly (risk of accidental triggering).
- The light blue anti-slip material and the UP arrow must be pressed against the body and in contact with the clothing.

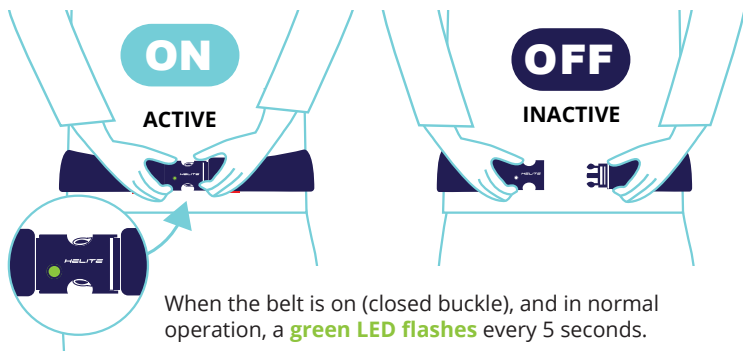


Recommendation: the belt should not be worn directly on the skin. It should always be worn over trousers and a T-shirt. However, it is possible to wear the belt under a waistcoat or jacket that is loose and open at the waist and hips. The waistcoat or jacket should not be tight around the hips and waist to not hinder the inflation of the airbag.

c. Switching on the belt

Once the buckle is closed the belt is activated. A green LED is followed by an orange LED that indicates that the belt is being initialised (10 seconds). The green LED lights up again to indicate the end of the initialisation phase.

See page 39 for details on the LEDs and beeps.



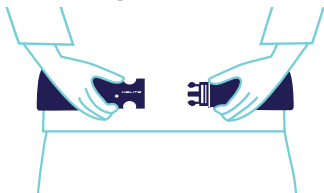
CAUTION: The system takes a few seconds to activate (10 second initialisation phase). An orange LED indicates this period during which **the belt can be adjusted without risk of accidental triggering**. A green LED signals the end of the initialisation. The belt is now active and ready to protect the user. **In the event of a fall during the initialisation phase, the airbag will not trigger.** If a **red LED** lights up, the status of the belt needs to be checked (see p. 40).

d. Checking before use

If one of these elements is not validated, the protection may not be optimal.

- ✓ The belt is charged.
- ✓ The belt is correctly adjusted to the size.
- ✓ The belt is facing the right side (the red labels are down and the light blue anti-slip material is inside).
- ✓ The buckle is closed (ON mode).
- ✓ A green LED is on and flashes every 5 seconds.

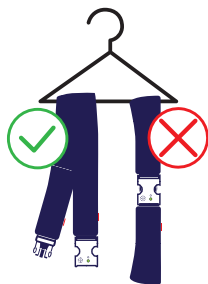
e. Removing the belt and switching off the system



Once the buckle is opened and the belt removed, the system stops automatically. All that's left to do is put the belt away.

CAUTION

The buckle must never be closed when the belt is not being worn. This could cause accidental trigger of the airbag when transported or hung up (e.g. on a coat hanger).



3. General safety instructions

Here are a few instructions that must be followed for safety reasons:

- After inflation, the gas cartridge must only be replaced with a Hip'Guard cartridge (available on the www.hipguard.eu website or from a retailer).
- Store the belt carefully when not in use: keep it away from high temperatures (45°C) and humidity.
- Any modification or misuse of the belt could dangerously reduce the effectiveness of the airbag.
- Never wear the belt under trousers.

- Never wear the belt directly on the skin.
- Before each use, make sure that the belt is worn in the correct direction (the buckle centred, the female part of the buckle on the right and the red labels pointing downwards).
- Never disassemble the components of the belt or gas cartridge.
- Do not touch the electronic components and cables located in the textile pocket behind the buckle. This could seriously damage the belt.
- Never buckle the belt when it is not being worn or when it is being charged (risk of accidental triggering).
- Modification or removal of any of the original belt components will impair the proper functioning of the airbag.
- Never wash the belt, only the protective cover is hand or machine washable (30°).
- Not suitable for sports or activities that involve sudden or rapid body movements. There is a high risk of accidental airbag activation.
- Do not use in the shower or bath.
- Keep out of the reach of children.
- Not suitable for people with advanced dementia (Alzheimer's) who are at risk of shifting, turning, lowering or removing the belt. The airbag may not activate or may activate in a way that could dangerously affect the person. There is a risk of falling if the belt is lowered and lower than the hip, as walking could be hindered.

4. Technical description

a. The concept



Everyday life



After a fall

The Hip'Guard belt is an airbag belt that protects the hip and femoral neck in the event of a fall. When a fall is detected, the airbag inflates on the left or right hip (in 0.08 seconds) depending on the fall direction and provides optimal protection before ground impact.

b. The electronic system

The belt has an integrated electronic system behind the buckle which must not be manipulated, otherwise the warranty will be void. This system uses a high-performance algorithm and sensors. It follows the person's motion in context and determines if the person is falling. The fall is detected in 200 ms and the regarding airbag inflates in 80 ms. The person is therefore protected in 280 ms and before impact (approximately 400 ms). The system automatically switches to sleep mode when the person is lying down.

c. The airbag protection

The airbags are manufactured and tested in Helite's workshops. They are made of high quality nylon and are very strong to cushion and absorb shocks with optimal efficiency. The maximum pressure when the airbags are fully inflated is about 200 mbar. The airbag deflates gradually after inflation. The triggering of an airbag generates the sound of a slight detonation, but does not generate any heat.

Anatomic design:

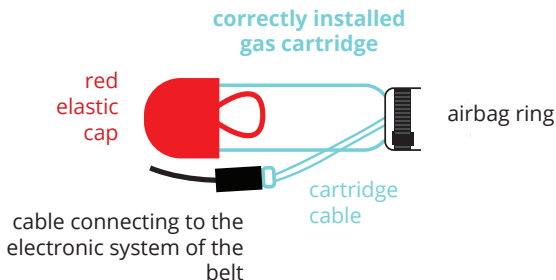
The horseshoe shape of the airbag protects the upper part of the femoral neck by insulating it and diverting the force of the impact. This allows the force to be distributed around the bone and not on the bone.





d. The gas cartridges

The belt is sold with two gas cartridges already installed and ready to use. To change the gas cartridges, simply insert the new gas cartridge into the corresponding connector (airbag ring), hold it in place with the red elastic cap and connect it to the cable connecting it to the electronics. **It is mandatory** to see page 34 for more detailed steps. It is recommended to keep a small stock of spare gas cartridges. The gas cartridges can be ordered online or from a dealer.



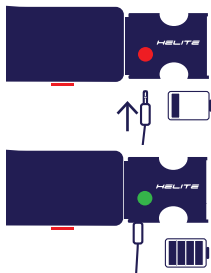
CAUTION

- The gas cartridges are for single use only and must be replaced after each inflation.
- Helite cannot ensure the safety and proper functioning of Hip'Guard with cartridges that are not original Hip'Guard gas cartridges. **The gas cartridges to be used are only Hip'Guard gas cartridges (GG 27cc).**
- **Store and use at temperatures below 45°C:** do not leave full gas cartridges in a car at too high temperatures.
- **Do not drop** the gas cartridge.
- If any corrosive marks appear on the surface of the gas cartridge, change it immediately.
- **Do not cut or perforate the gas cartridge. DANGER:** The gas inside is compressed at very high pressure.
- **Do not dispose the gas cartridge in a fire or in a rubbish bin.** Take it to the waste disposal site.
- **Keep out of reach of children.**

e. The battery

Hip'Guard has an autonomy of approximately 75 hours depending on the frequency of use. The system is 100% automatic and energy-efficient: it automatically switches to sleep mode when the wearer is lying down. The belt recharges like any other electronic device on any USB port or on a USB 5V phone or tablet charger.

Caution: only the USB cable that is supplied with the belt can be used to recharge the belt.



Battery low: Red LED flashing and 3 short beeps every 30 sec. The belt needs to be recharged.

Connect the charger to the belt buckle. Charging time is about 6 hours.

When the belt is charged, the indicator turns green.

CAUTION

**Never close the buckle when the belt is being charged.
Check that the battery is charged before each use.**

f. The size of the belt

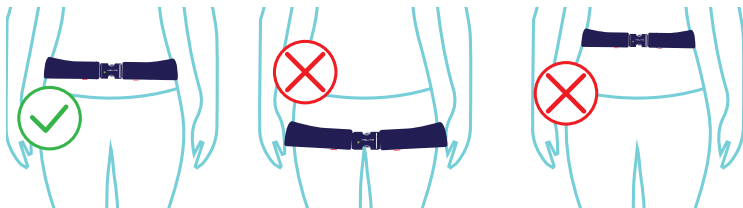
There are 5 different sizes (S, M, L, XL, 2XL). For optimal comfort and fit, an elastic band has been added at the back of the belt.

To find the right size, simply measure the waist line with clothes at the navel and consult the table below:



	S	M	L	XL	2XL
Wait line in cm	70	83	92	102	117
	-	-	-	-	-
	86	95	105	120	135

With the correct choice of the size the belt should fit properly on the hips. It should be neither too tight nor too loose and the buckle should be pressed against the abdomen.



g. The protective cover

A protective cover is included with Hip'Guard. The belt can be worn without the cover but it is recommended to use the cover to protect the belt which is not washable. The protective cover is washable at 30°C. It is easy to put on and take off by following the press buttons and the red label.

Always check that the cover is in the right orientation:

- The red labels (belt and cover) are matching and point downwards.
- The UP arrow on the inside of the belt and on the cover match and the arrow points upwards.
- The light blue material of the cover is superimposed on the belt.
- The press buttons are facing downwards.

Failure to strictly follow these indications could prevent Hip'Guard from working properly, as the cover could then prevent the airbags from deploying.



5. Reusing the airbag system

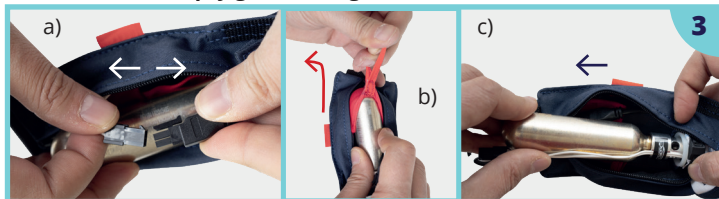
The belt is reusable after each fall, as long as the airbag fabric is not damaged. The electronic system will indicate that the maximum number of airbag deployments has been reached (see page 40). To reuse the belt, simply fold and stow the deployed airbag and replace the gas cartridge. The following steps need to be followed after one of the airbags has inflated:



1. Remove the protective cover.

2. Open the small pocket of the gas cartridge on the side where the airbag has inflated. It is located between the buckle and the airbag.

3. Remove the empty gas cartridge.



a) Disconnect the empty gas cartridge. **This step must be carried out first. It is dangerous to remove the cartridge before disconnecting it.**

b) Remove the red elastic cap by pulling it upwards (rounded part of the cartridge), then slide it towards the back of the cartridge to release it (see schema b).

c) Remove the empty cartridge by holding the black and white plastic ring firmly and pulling the cartridge outwards.



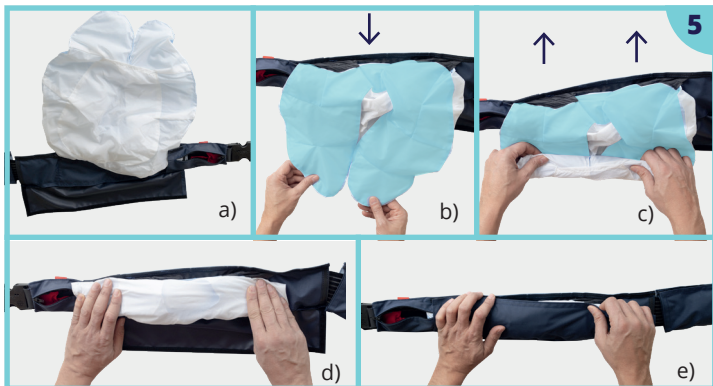
4. Release the air of the airbag by pressing with both hands on the white side of the airbag cushion.

CAUTION

If the gas cartridge is not removed, it will not be possible to release all the air of the airbag.

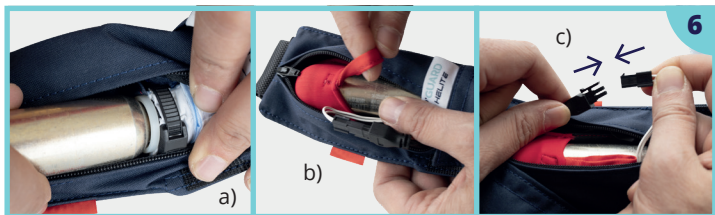


5. Fold and stow the airbag

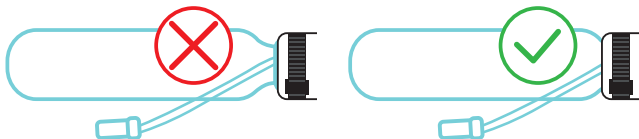


- Put the belt close to you, the empty airbag faces upwards (see schema a).
- Reverse the airbag towards you to have the blue part facing you.
- Roll up the airbag. The blue side **MUST ALWAYS** be folded inwards. Otherwise the airbag will not be able to deploy correctly.
- Finish rolling up the airbag and adjust it so that it fits in the pocket. At the end of the rolling up, the white part of the airbag must always be visible.
- Close the airbag pocket following the velcros starting from the velcros close to the zip.

6. Install a new gas cartridge



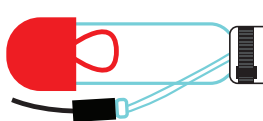
a) Hold the black and white plastic ring firmly. Insert a new Hip'Guard gas cartridge into the cylinder. **Push the new gas cartridge in as far as it will go.** (see image a). If the cartridge is not sufficiently inserted, it will be difficult to put on the red elastic cap and the airbag will not inflate sufficiently in order to ensure good protection.



b) Cover the end of the cartridge with the red elastic cap using the red strap (run a finger through it). **This step must be carried out after inserting the gas cartridge. It is dangerous to close the zip before the cap covers the cartridge head.**

c) Connect the cable of the gas cartridge with the cable of the system. **This step must only be carried out after the cartridge is properly positioned and attached. It is dangerous to connect the cartridge before it is properly fixed (clips and elastic cap).**

cartridge correctly
fixed,
attached and
connected



d) Close the zip of the pocket.



7. Replace and close the protective cover



Follow the press buttons. Take care to position the cover correctly (see p.33 for correct positioning of the protective cover).

CAUTION

Incorrect installation may prevent the system from working properly. In case of doubt concerning the reconditioning of Hip'Guard, please consult the video tutorials on the website www.hipguard.eu, or contact a retailer.

Checks after a fall

Pay attention to the following points when the belt is inflated :

- The gas will gradually escape. The maximum pressure remains for about 5 to 10 seconds, and then the airbag deflates gradually and partially.
- Internal damage to the belt can be detected by very rapid deflation, if any abnormal mark on the airbag is observed, contact or take the belt to an authorised dealer for servicing.

In addition to the checks on page 28, check that these elements are validated. Otherwise, the user may not be properly protected.

- The gas cartridge has been replaced by a new Hip'Guard cartridge.
- Both airbags are properly folded in their pockets.
- The protective cover is on the right side and has been properly closed.

6. Maintenance

a. The gas cartridges

The gas cartridges come with a 10-year guarantee, but it is recommended to check the weight of the gas cartridge every year. The check consists of weighing the gas cartridge. **The Hip'Guard 27 CC gas cartridge weighs 108 g: its weight must be between 105 g and 111 g.**

b. Washing

Only the protective cover is hand and machine washable.

Protective cover



Belt



CAUTION

The belt is not washable (neither by machine nor by hand). It can only be cleaned with a gently damp sponge. Washing the belt or immersing it in liquid will damage the electronics and void the warranty.

c. Storage

For a good durability of the product, respect the following rules:

- Do not expose to high temperatures (direct sunlight, in a closed vehicle, near a heat source or a flame).
- Do not expose to rain and steam, avoid excessive humidity.
- Do not cover with anything heavy.
- Do not leave within the reach of rodents or other animals.
- Do not leave within the reach of children
- Do not close the belt when it is stored.

d. Recycling

If the gas cartridge is empty or the airbag belt is at the end of its life, please do not throw it away with the household waste. In order to avoid any environmental or health risks, please sort them out and dispose of them at a local waste collection centre. Consult the local sorting rules for electronic and metal waste (municipality, waste collection centre, etc.).

7. Delivery and After Sales Service

For all questions about the Hip'Guard belt, please contact a retailer. If Hip'Guard was purchased on the hipguard.eu website, please contact the customer service via email at: sav@helite.com.



a. Delivery

Delivery is made in accordance with the conditions of the dealer. The belt is packed in a personalised box. For transport it is recommended to use cardboard packaging.

b. Traveling with the airbag belt

It is possible to travel with the belt. However, it is important to know the legislation in each country before. There are no restrictions for travel by train, bus or car. By plane, please refer to the IATA regulations (download at hipguard.eu) and contact the airline company.

c. Replacement & warranty

The belt comes with a 2-year guarantee. If any of the problems described below are encountered, contact a dealer for repair or replacement of the product. If Hip'Guard was purchased on the www.hipguard.eu website, contact customer service via email at: sav@helite.com.

- If the belt or internal materials (fabrics) are torn.
- If a break, crack or corrosion appears on the activation mechanism or on the gas cartridge.
- If the system does not switch on when the belt is charged and closed (LED off).

8. Fonctioning & Malfunctioning

a) Activating the airbag belt (just after closing the buckle)



Green LED fixed (2 seconds) + 3 rising beeps

▶ the belt is buckled, initialisation phase will begin



Orange flashing LED (10 seconds)

▶ initialisation phase (the airbag is not activated and cannot be triggered)



Green LED fixed + 2 second beep

▶ End of the initialisation phase

b) When the belt is worn



Green flashing LED all 5 seconds

▶ belt is working properly



No LED + no beeps

▶ belt is on sleep mode (user in lying down position)

▶ battery is completely empty (user sitting and standing)

▶ belt is not buckled



Red flashing LED + 3 downward beeps in a loop

▶ belt is upside down ▶ correctly reposition the belt (see p. 25)



Red flashing LED all 5 seconds + 3 downward beeps all 5 minutes

▶ battery low ▶ recharge the belt (see p. 32)



Red LED fixed + 2-second beeps every 2 seconds

▶ no cartridge, cartridge empty or cartridge incorrectly connected ▶ check the cartridge and change it if necessary



Red LED fixed + beep that does not stop

▶ one of the airbags has been used ▶ change the belt

If none of these cases are detected,
contact the retailer or the after sales service.

9. Certification

This product is "CE certified (compliance with EU Regulation 2016/425) by ALIENOR CERTIFICATION, Zone du Sanital, 21 Rue Albert Einstein CHATELLERAULT-France-notified body no. 2754".



10. Disclaimer

- Hip'Guard reduces the force of the impact on the hip, during a side fall ending on the side.
- Hip'Guard is personal protective equipment which therefore has a protective function and not a preventive one. The belt in no way guarantees the absence of fractures following a fall because this consequence is multifactorial and depends, among other things, on the state of the bones (osteoporosis), the state of nutrition, and the state of health of the wearer of the belt. Note that no body protection can guarantee the prevention of serious injuries such as hip fracture or death following a fall.
- Helite and its distributors will in no way be held responsible for bodily injury or death, and/or material damage that may occur during a fall, when using the Hip'Guard belt.
- Helite and its distributors decline all responsibility following incorrect installation or use of the Hip'Guard belt.
- Helite and its distributors cannot be held responsible in the event of non-inflation of the airbags.
- The belt does not guarantee the detection of 100% of falls.
- The Hip'Guard belt does not protect parts not covered by the airbags (coccyx, wrist, arms, head, back, etc.).
- Any modifications or incorrect use and storage of the airbag may cause a malfunction.
- This PPE does not contain any allergenic substances. Its design does not cause any irritation or discomfort to the user.