

PROTECTION AIRBAG SYSTEM 3.0

# User Manual



- DE** Benutzerhandbuch
- EN** User Manual
- FR** Manuel de l'utilisateur
- IT** Istruzioni per l'uso
- ES** Instrucciones de uso
- NO** Brukerhåndbok
- SE** Användarhandbok
- JA** ユーザーマニュアル



**MAMMUT**  
**AIRBAG** TECHNOLOGY 3.0

**MAMMUT**<sup>®</sup>  
Absolute alpine.

# MAMMUT

# AIRBAG

## TECHNOLOGY 3.0

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**1. Introduction and operation**

Thank you for purchasing a Mammut avalanche airbag. Please read this manual carefully and note the warnings and guidelines.

If you are caught up in an avalanche, a Mammut avalanche airbag increases your chance of staying on the surface. However, an avalanche airbag does not provide any guarantee of survival, as its effectiveness in the avalanche depends to a great extent on the volume of snow, the density of the snow and, in particular, the nature of the terrain. You should therefore never take the extra risk. An avalanche is always life-threatening, regardless of the equipment used. Like a Barryvox®, probe, shovel and first aid set, an avalanche airbag should be part of every ski tourer's or freerider's standard safety equipment. Sound training in risk management and familiarization with your safety equipment are also essential requirements.



**2. Warning**

Anyone using Mammut equipment is personally responsible for learning the proper use and technique. Every user assumes all risks and accepts entire responsibility for all damages or injuries of any nature

that may result during use of Mammut products. Neither the manufacturer nor the retailer accept any liability in the event of misuse and improper use and/or handling. These guidelines are intended to help you use the product correctly. Since it is not possible to list all incorrect usages and possible errors, these instructions can never replace your own knowledge, training, experience and personal responsibility.

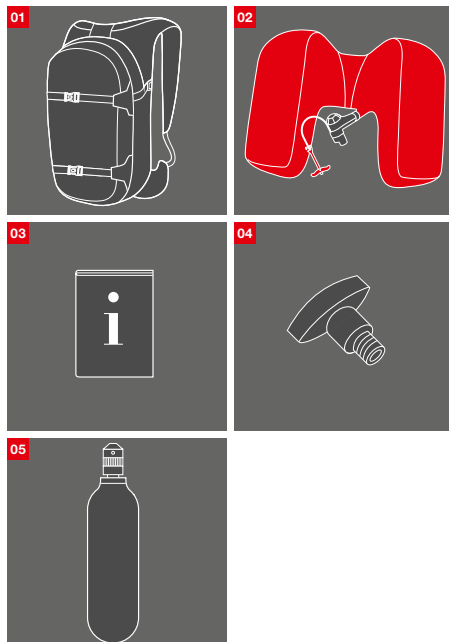
**3. Operation**

The avalanche airbag uses the physical law of inverse segregation (sorting effect). This means that in an equally moving mass of particles (e.g. snow), the smaller particles gravitate to the bottom while the larger ones rise to the surface. Pulling the deployment handle of the avalanche airbag increases the wearer's volume, significantly boosting this effect. Consequently, the avalanche airbag can actively help prevent burial or partial burial and, in an ideal situation, allow self-rescue or rapid location.

**4. Parts needed for operation**

- 01 Backpack (if you have bought the airbag system by itself, you must purchase the matching backpack separately)
- 02 Airbag system
- 03 Manual
- 04 Trigger test tool (for a test deployment without the cartridge)
- 05 Pressure cartridge (the required system cartridge is not included and must be purchased separately)





## 5. Instructions

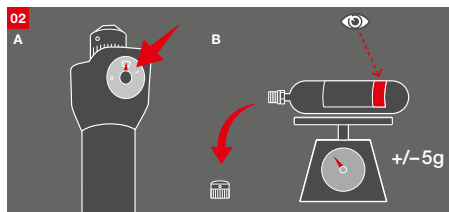
### 5.1 Preparing, putting on and deploying the airbag

**01** Check that the airbag system has been installed correctly before entering terrain with a potential avalanche risk. Follow the instructions in *Section 5.3*.

**02** Always check the filling pressure of the cartridge before use.

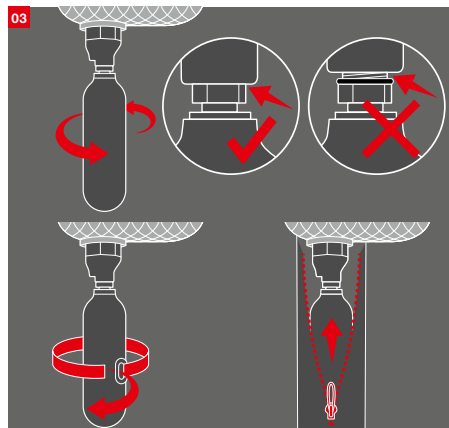
**A** Cartridge with pressure gauge: At a room temperature of 20 °C / 68 °F, the arrow must be in the green area.

**B** Cartridge without pressure gauge: the actual weight of the cartridge (without protective cap) must correspond to the weight indicated on the cartridge (+/- 5 g).



**03** Screw the cartridge all the way into the mechanism, secure it in the cartridge pocket using the Velcro closure and close the pocket. Make sure there are no foreign objects in the pocket. The Mammut airbag may be used only with Mammut or Snowpulse cartridges.

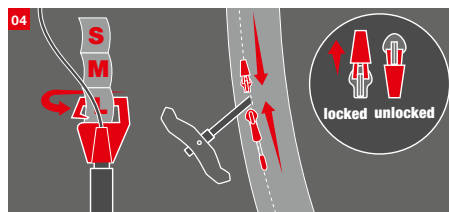
**CAUTION:** Screw the cartridge in completely (the black rubber seal must not be visible). The cartridge must be secured using velcro.



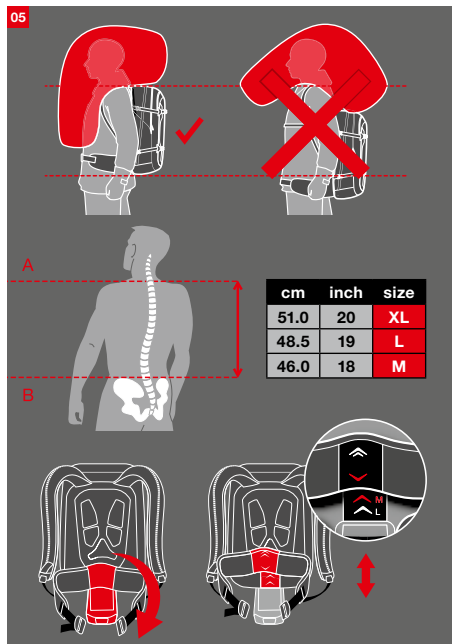
**04** Adjust the height of the deployment handle on the left shoulder strap. There are three different settings (S/M/L). The handle should ideally be at chest height. The hook should be pushed securely into the loop, as shown in the graphic.

Close the upper zipper until it is just below the attachment. Use the lower zipper to install and remove the handle.

You can lock the zipper by folding the handle up.



**05** It is important to ensure that the Protection Airbag System 3.0 is sitting correctly, since this determines the angle to the body at which the airbag deploys. The back height of all Protection Airbags must therefore be adjusted to the user. The length of the back can be continuously adjusted. In general, the backpack is sitting correctly if your shoulders are in line with the airbag opening. The diagram is provided for guidance. For comfort reasons, the position may vary from the preferred setting. However, make sure that the airbag does not sit too low, as shown. Adjust the hip belt using the Velcro closure on the back of the hip belt padding.

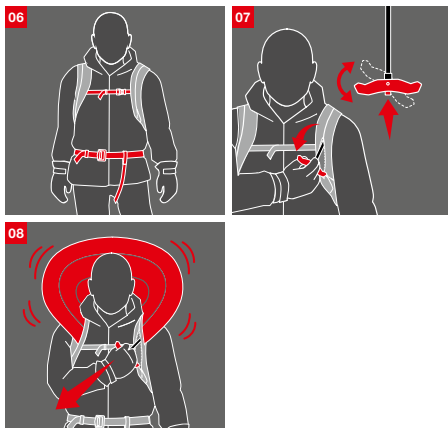


**06** To put on the avalanche airbag correctly, thread the hip belt through the leg strap; close the hip belt (the hip belt should sit approximately on the hip bone); tighten the shoulder straps; close the chest strap. The length of the leg loop can also be adjusted. The leg loop should fit tightly.

**07** Before entering areas with an avalanche risk, remove the deployment handle from the pocket and turn into a T position. To stow the deployment handle, press the button under the grip and twist it into a vertical position. Place the handle in the shoulder strap pocket and close the zipper.

**08** If you get caught in an avalanche, deploy the airbag immediately. It is better to use it once too often than once too little. Pull the deployment handle hard and decisively.

The airbag will automatically fill in approximately three seconds. You will hear a relatively loud noise as the airbag fills.



**5.2 Further use (folding)**

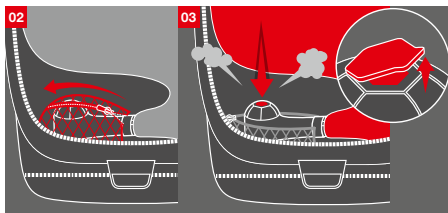
The avalanche airbag can be reused after deployment. However, after deployment in an avalanche, your avalanche airbag must be checked by Mammut Customer Service. This is the only way to guarantee smooth deployment. If you have used your airbag in an avalanche, please contact your Mammut retailer. We strongly advise against using your airbag without having it checked first.

To prepare your avalanche airbag for further use:

**01** Unscrew the cartridge and remove it from the system.

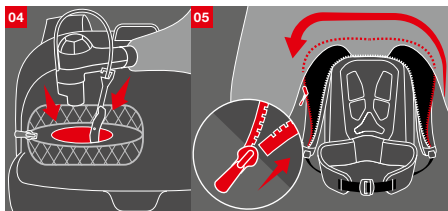
**02** Open the airbag system pocket zipper.

**03** Remove the protective cap, press the deflation button and press the air out of the airbag. The less air there is in the airbag, the easier it will be to fold.



**04** Close the airbag system pocket zipper again.

**05** Open the airbag zipper from the left to the right shoulder strap.

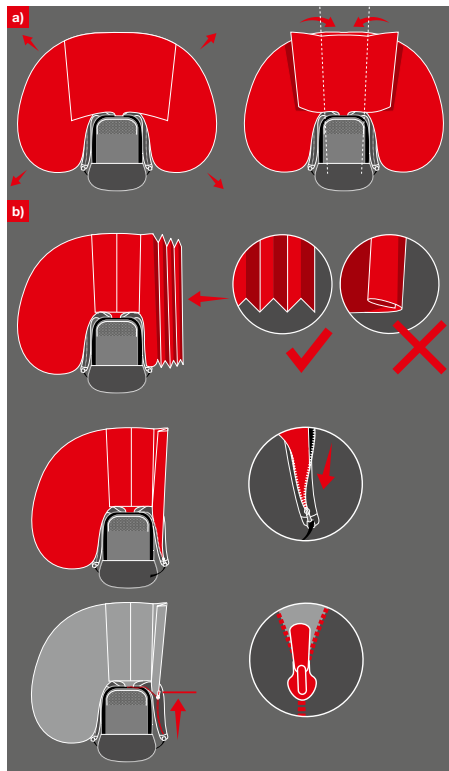


06 Spread the airbag out flat and fold it as shown in the illustration. A video guide demonstrating how to fold the airbag is available on our website [mammut.com/airbags](http://mammut.com/airbags)

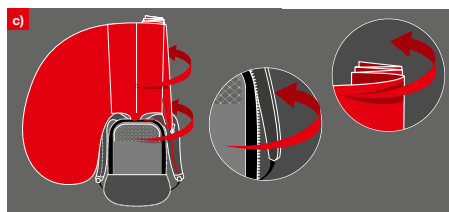
**CAUTION:** The airbag should never be rolled up before packing.

- Fold the inner flaps.
- Right shoulder strap: airbag folds. Check the width of the shoulder strap. Close the zipper up to the top edge of the backpack.

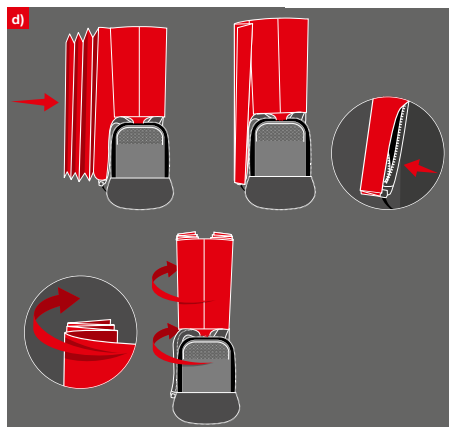
**CAUTION:** Fold the airbag, do not roll it up. It is not important whether you fold it 3, 4 or 5 times.



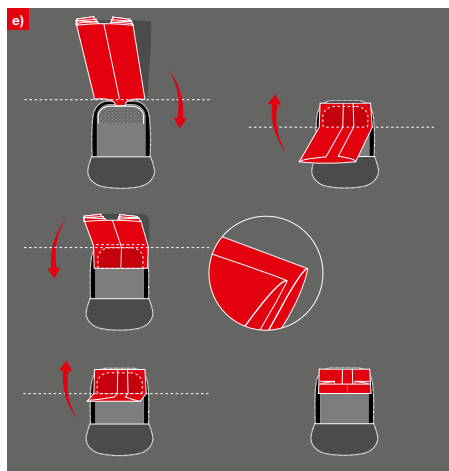
c) Place the shoulder strap under the backpack and the excess airbag material at the top under the middle fold from step a).



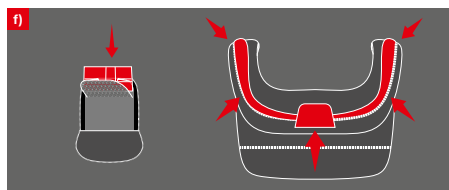
d) Fold the airbag above the left shoulder strap, in the same way as you did for the right shoulder strap. Once again, place the shoulder strap and airbag material under the backpack or the middle part of the airbag. However, there is no zipper here.



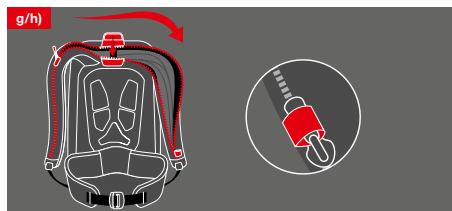
e) Fold the top part of the airbag 3 or 4 times.



f) Place the airbag in the pocket provided and close the Velcro closure.



- g) Close the zipper on the shoulder strap first and then close the Velcro closure again.
- h) Thread the zipper pull through the loop.

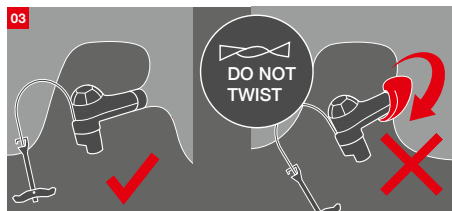


- 07 Use a new cartridge or refill the cartridge and check the cartridge pressure (see Section 5.1).
- 08 Screw in the cartridge and secure it in the cartridge pocket (see Section 5.1).

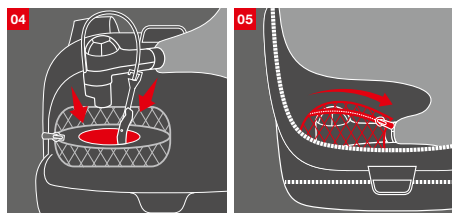
### 5.3 Installing the airbag system

The Protection Airbag System 3.0 can be installed in various compatible backpacks. Please note that the Protection Airbag System 3.0 can be installed only in Protection Airbag System 3.0 compatible backpacks.

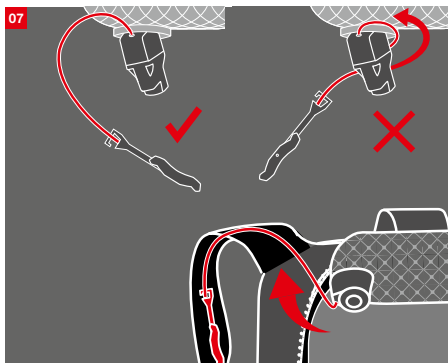
- 01 Open the airbag pocket: open the zipper from the center and slide the zipper pull to the right shoulder strap.
- 02 Spread the airbag out flat. Remove all the air from the airbag, if necessary (see Section 5.2).
- 03 Make sure the airbag has not been attached the wrong way round.



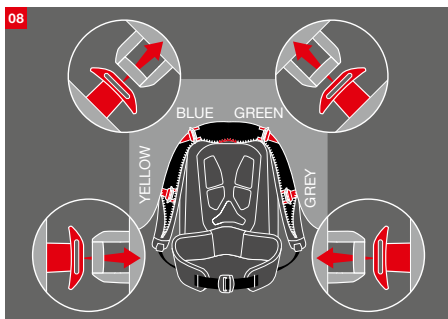
- 04 Thread the deployment handle and airbag system through the opening in the airbag system pocket.
- 05 Close the airbag system pocket.



- 06 The deployment handle must not be wound around the airbag system.
- 07 Place the deployment handle in the left shoulder strap.



- 08 Thread the four colored airbag buckles through the appropriate loops (from bottom to top).



- 09 Fold the airbag and pack it as described in Section 5.2.
- 10 Attach the deployment handle as described in Section 5.1.

### 5.4 Removing the airbag system

The Protection Airbag System 3.0 can be removed from the backpack in just a few steps. See illustration in Section 5.3.

- 01 Unscrew the cartridge.
- 02 Open the airbag pocket.
- 03 Open the airbag system pocket.
- 04 Loosen the four airbag buckles.
- 05 Loosen the deployment handle in the shoulder strap and feed it into the main compartment.
- 06 Thread the deployment handle and airbag system through the opening in the airbag system pocket.

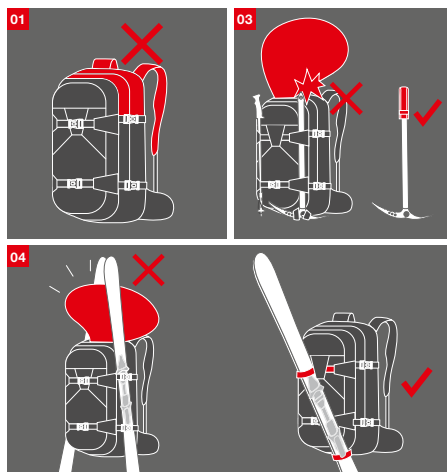
### 5.5 Training deployment

Training with your avalanche airbag is necessary in order to become familiar with your system and to be able to act quickly and intuitively in an emergency. In particular, you should practice deploying your avalanche airbag in order to realize how hard you need to pull on the deployment handle. In order to avoid refolding your avalanche airbag after every practice, you can also perform a test deployment without a pressure cartridge. The Trigger Test tool allows you to perform this test deployment very easily. We recommend at

least one test deployment before the winter season begins.

### Using the Trigger Test tool

- 01** Screw the Trigger Test tool all the way into the deployment mechanism. Caution: the Trigger Test Tool must not be overtightened.
- 02** Put the backpack on (see *Section 5.1*). In order to make the deployment as realistic as possible, we recommend wearing your skiing clothes during the test deployment. Deploying the airbag while wearing gloves is particularly good practice.
- 03** Deploy your avalanche airbag as described in *Section 5.1*.
- 04** Then unscrew the Trigger Test tool from the deployment mechanism.



## 5.6 Attaching equipment to the backpack

Our backpack models offer a number of options for attaching a variety of equipment to your backpack. The following points should be considered:

- 01** It is important to ensure that any attachment of additional equipment does not inhibit the deployment of the airbag. In other words: Do not block the opening of the airbag (e.g. attaching a rope to the backpack).
- 02** Your shovel and probe can be placed in your backpack. Most backpacks have a separate compartment for safety equipment.
- 03** Your ice ax can be attached to the outside of your backpack. Always use a protective ax cap, such as the Mammut Ice Spike Protection. This prevents the tip of the ax damaging the avalanche airbag in an emergency. The Ice Spike Protection is suitable for most popular mountain tour ice axes.
- 04** We recommend that you always attach your skis diagonally across your backpack. Although fixing your skis in a A-shape is possible, we advise doing so only in safe terrain. Fixing your skis in an A-shape can impair the inflation of the airbag.

## 6 Cartridges

### 6.1. General

The pressure cartridges are the airbag system's energy store. We stock a number of cartridges that are compatible with the Protection Airbag System 3.0. All cartridges that were compatible with the Inflation System 2.0 (from 2011/2012) are also compatible with the new Airbag System 3.0. One cartridge allows only one deployment. After deployment the empty cartridge must be refilled.

### 6.2 Types and refilling

Use only Mammut or Snowpulse cartridges with Mammut airbags:

#### Carbon cartridges

These are the lightest cartridges we stock and must be replaced by a Mammut retailer after deployment. Many Mammut retailers offer a cost-effective price for exchanging old cartridges for new ones. Not available in the USA and Canada.

#### Steel cartridges

Steel cartridges must be replaced by a Mammut retailer after deployment. Many Mammut retailers offer a cost-effective price for exchanging old cartridges for new ones. Not available in the USA and Canada.

#### Aluminum cartridges

Aluminum cartridges are distributed mainly in the USA and Canada. Customers can refill the cartridges themselves. Please read our manual for refilling cartridges and refer to the list of official filling stations for 207 bar aluminum cartridges:

[mammut.com/cartridge-refill](http://mammut.com/cartridge-refill)



### 6.3 Notes

- Cartridges must be replaced or refilled after use. For filling instructions, see [mammut.com/airbags](http://mammut.com/airbags)
- The filling pressure must be checked before each use.
- Use only Mammut or Snowpulse cartridges with Mammut airbags
- Cartridges must never be exposed to excessive heat (direct sunlight, oven, etc.)
- Cartridges may be used only within the permitted temperature range (-30 to +40 °C)
- Cartridges must not be damaged. Damaged cartridges must be replaced.
- The cartridge must be screwed all the way into the airbag system (the black rubber seal must not be visible)
- The cartridge must be secured in the backpack using velcro

### 7. Flying with an avalanche airbag

In general, it is possible to transport Mammut avalanche airbags by air (please note, a special regulation applies for the USA). The pressure cartridges used in avalanche airbags are classed as hazardous goods. Special regulations therefore apply if you wish to carry them with you on a flight.

The latest updated information on flying with cartridges can be found here:

[mammut.com/airbags-travel](http://mammut.com/airbags-travel)

### 8. Cartridge rental stations

Our numerous cartridge rental stations offer a simple solution for traveling with your avalanche airbag. Simply rent your avalanche airbag cartridge locally.

A list of cartridge rental stations can be found here:

[mammut.com/airbags-travel](http://mammut.com/airbags-travel)

## 9. Care, maintenance and additional information

### 9.1 Cleaning

Only clean your Mammut avalanche airbag with water. Do not use solvents. After cleaning, the airbag must be completely dry before reuse. Dry the airbag in the open air. Spread the airbag out flat. Do not dry in direct sunlight or using a tumble dryer or heater.

### 9.2 Maintenance and disposal

We recommend regular maintenance of your avalanche airbag.

Check your equipment for signs of damage and wear before and after each use.

The following points should be noted:

- 01** Make sure that the airbag system is installed (*Section 5.3*) and folded correctly (*Section 5.2*).
- 02** Make sure that your cartridge has the correct pressure and is completely screwed in. (The black rubber seal must not be visible) (*Section 5.1*).
- 03** Perform at least one training deployment each season. A training deployment can also be performed with an empty cartridge or using the Trigger Test tool. If the deployment is successful, you will hear a clear “click” sound (*Section 5.6*).

**04** Check the airbag for holes or tears.

**05** If the airbag is wet, spread it out flat and leave it to dry.

**06** Check the airbag system for damage (cracks in the housing, dents, threading, etc.).

**07** Check your backpack, shoulder straps and hip belt for holes, tears and damaged seams.

If you discover signs of damage or have other doubts about reliability, please contact Customer Service. Damaged equipment must either be properly disposed of or repaired by our customer services before use. It is forbidden to make any repairs and changes to the product, which are not explicitly described in this manual, by yourself.

### 9.3 Maintenance after use in an avalanche

Any use in an avalanche can damage the avalanche airbag due to the enormous forces it is subjected to.

Maintenance of the system after use in an avalanche is therefore essential. This maintenance must be performed by Mammut Customer Service. Contact your retailer or Mammut Customer Service to arrange a check or maintenance for your airbag.

### 9.4 Storage

Store your Mammut avalanche airbag in a cool, dry place.

Remove the cartridge if you intend to store the system for a long time. Store your cartridges in a cool, dry place. Use the cartridge cover and original packaging to store cartridges.

### 9.5 Service life

Given optimum storage and rare use, you should replace your avalanche airbag after a maximum of 10 years (from the date of manufacture) or after a maximum of 40 deployments (with or without cartridge). The product’s service life depends on many factors, such as frequency of use, handling, climatic influences, etc., and cannot be determined precisely in advance.

The following table provides guidelines concerning the service life:

Frequency of use in days of use per year (given optimum storage)	Approximate service life
Rare use Up to 10 times per year	Up to 10 years
Occasional use Between 10 and 40 times per year	5–7 years
Frequent use Between 40 and 80 times per year	3–5 years
Constant use 80 times per year	1–3 years

The following factors reduce the service life of an avalanche airbag: use in an avalanche, heavy falls, abrasion, wear, long periods of direct sunlight, salt water, salt air, corrosive substances. The use of avalanche airbags in rental operations can also drastically reduce their service life.

Careful and regular maintenance can increase the service life of an avalanche airbag (Section 9.2).

## 9.6 Specifications

Type:	Protection Airbag System 3.0
Permitted operating temperature:	-30°C to 40°C
Operating altitude:	0 to 6,000 m above sea level.
Airbag volume (inflated):	150 liters
System weight without cartridge and without backpack:	approx. 920 g
Filling process:	approx. 3 to 5 seconds
Manufacturer:	Mammut Sports Group AG Birren 5 CH-5703 Seon
CE:	PPE Regulation (EU) 2016/425 (Cat. 2)
Standard:	EN 16716:2017
EU Declaration of Conformity	<a href="https://ppe.mammut.com">https://ppe.mammut.com</a>

## 9.7 Product labeling

**01 Airbag system**

The diagram shows a rectangular label for the airbag system. The label contains the following information:

- Brand logo:** MAMMUT
- Airbag system type:** PROTECTION AIRBAG SYSTEM 3.0
- Manufacturer and address:** Mammut Sports Group, Birren 5, CH 5703 Seon
- CE compliance label:** CE mark and an information icon (i).
- Date of manufacture:** YYY-MM (Year and month)
- Serial No.:** XXXXXXXXXX
- Standard:** EN16716:2017
- Unique serial number:** The first four digits refer to the production batch number.

Additional notes:

- Note to read user handbook (pointing to the information icon).
- Applicable standard for avalanche airbag systems (pointing to the EN16716:2017 standard).

**02 Backpack**

The diagram shows two labels for the backpack. The left label contains the following information:

- Mammut item number:** (indicated by a red line)
- Production batch number:** (indicated by a red line)
- Manufacturer and address:** Mammut Sports Group AG, Birren 5, CH-5703 Seon, Switzerland

The right label is for the airbag system and contains the following information:

- Airbag system type:** PROTECTION AIRBAG SYSTEM
- Note to read user handbook:** (pointing to the information icon and the text 'Read user manual before use!')



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[mammut.com](https://www.mammut.com)

[mammut.com/airbag](https://www.mammut.com/airbag)