

A E R O S I Z E

AVALANCHE AIRBAG VEST

WWW.AEROSIZE.COM



USER
MANUAL

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Congratulations on choosing the AEROSIZE Avalanche Airbag Vest.

**Please read and understand this manual carefully.
Please pay particular attention to the warnings in the manual
and store it for further reference.**

INTRODUCTION

I.

The AEROSIZE Avalanche Airbag Vest is a safety device that, under certain conditions, after activation, can reduce the risk of complete burying during a snow avalanche. The AEROSIZE System does not prevent avalanches from occurring.

There is a lethal risk present even if the user has not been buried.

Every avalanche is a potential threat to life, regardless of your equipment, so having the AEROSIZE System you should not feel encouraged to take risks.

The AEROSIZE System does not protect against impacts or low temperatures.

WARNINGS

II.

This product is intended for use during activities in which the user is exposed to avalanche risk

Avalanches kill. You should understand and accept the risks involved before starting any activities that may expose you to avalanche risk.

You are responsible for your own actions and risks arising from your decisions.

Avalanche training is essential before going into an avalanche risk area. You should know how to avoid avalanches and what to do if you are caught in an avalanche.

This vest may increase the user's chances of survival, but does not guarantee safety in the event of an avalanche.

In an avalanche area, exercise extreme caution to increase the chances of survival.

Any slide or avalanche can be deadly!

WARNINGS

1. The AEROSIZE System is not an anti-avalanche system, it has no effect on and does not protect against triggering of an avalanche.
2. Regardless of the measures used, avalanches can be deadly.
3. Having the AEROSIZE System must not encourage taking risks.
4. Using the AEROSIZE System does not guarantee that you will stay on the surface of an avalanche/snow. It only reduces the risk of being buried.
5. The AEROSIZE System is not intended to replace the avalanche rescue kit. It only serves to complement it. The vest should be used in conjunction with other elements of avalanche equipment: beacon, shovel and probe.
6. AEROSIZE sp. z o.o. cannot be held responsible for injuries caused by an avalanche involving its AEROSIZE System.
7. The AEROSIZE System needs to be prepared properly before it is put on.
8. The AEROSIZE System needs to be packed and folded in such a way as to ensure no equipment (such as ice axe, skis, snowboard, crampons, etc.) will damage or block the opening of the airbag.
9. The AEROSIZE System **MUST BE PACKED INTO THE VEST IN ACCORDANCE WITH THE INSTRUCTIONS**. Incorrect packing hinders the opening of the avalanche airbag, may lead to malfunction and may damage the vest and the airbag itself.
10. The set of cartridges required for one airbag activation should be understood as two full AEROSIZE cartridges installed simultaneously.
11. Use only original AEROSIZE cartridges.
12. You should know the potential risks associated with the use and transportation of gas cartridges.
13. Do not throw or stress the cartridges - risk of explosion. Maximum temperature range is -30°C to +50°C, e.g. do not leave AEROSIZE System in a sunlit car.
14. Be careful not to endanger other people when practicing the activation of the airbag.

WARNINGS

15. In order to avoid an unwanted or inadvertent activation where other people could be harmed by such an accidental activation, it is recommended that you stow the trigger handle in the strap sleeve with the zipper closed, especially in crowded places like chairlifts, gondolas, in or around a helicopter, bus, train, automobile, etc.

16. Before the system can be put into operation again (airbag can be inflated), it must be completely emptied of gases.

17. Do not activate the system (do not inflate the airbag) unless the system has been fully packed and prepared for operation.

Doing this can damage the system.

18. The AEROSIZE System must be kept clean at all times. In case of a spoiled inflator system the function of the airbag system is not granted.

19. The product may not be modified in any way.

20. Minors and persons with reduced physical, sensory and mental abilities or persons who do not have sufficient experience and knowledge must be under the direct supervision of an experienced and responsible person when using this product.

21. Keep children away from the AEROSIZE System.

22. Not suitable for children. To be worn by one person only.

23. We recommend visiting the manufacturer's website for updated instructions.

Failure to read or follow the above warnings and instructions can result in serious injury or death.

The system will only work properly if the vest is put on according to the instructions, armed and activated in a timely manner. Use the airbag only as described.

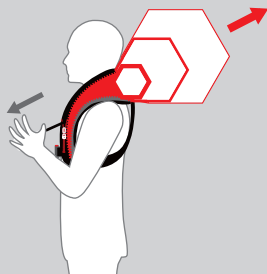
Complying with all instructions and warnings can reduce the risk of being buried in an avalanche.



III. CONTENTS

THE PACKAGE PROVIDED BY THE MANUFACTURER INCLUDES:

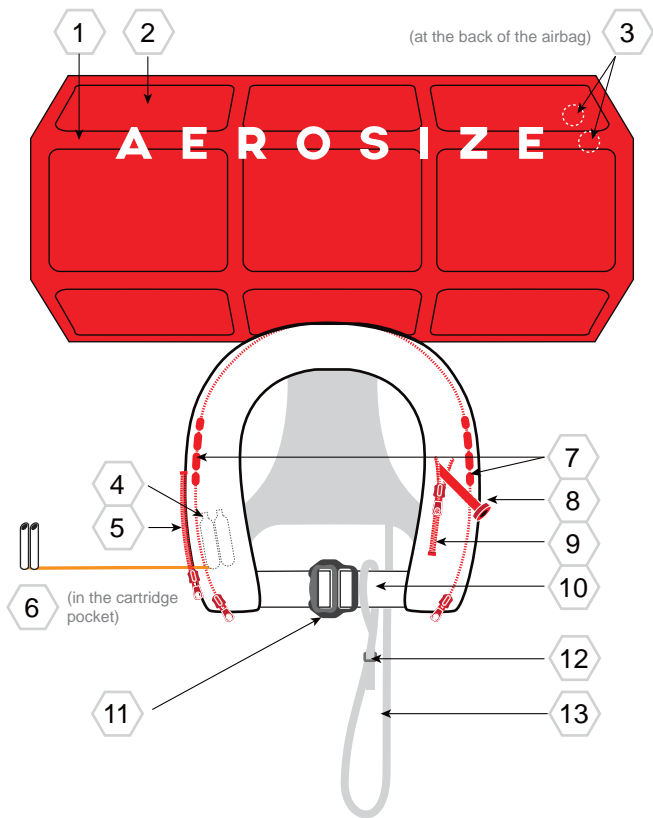
1x AEROSIZE System
1x Cartridge set (two cartridges)
1x Manual



The AEROSIZE vest is equipped with an avalanche airbag system, the purpose of which is to increase the chances of survival in an avalanche accident. The airbag, by increasing the total volume of a person caught in an avalanche, helps to keep the victim on the surface of the slide, at the same time reducing the chances of burying the victim completely and facilitating the rescue operation.

- pneumatic airbag frame 1
- air chamber 2
- airbag emptying valves 3
- compressed gas cartridges 4
- cartridge pocket zipper 5
- tubes for airbag deflation when folded 6
- airbag burst-release zippers 7
- trigger 8
- trigger pocket zipper 9
- main strap with adjustment 10
- main buckle 11
- leg loop adjustment buckle 12
- leg loop 13

FIG. 1 - AEROSIZE SYSTEM COMPONENTS



IV. CARTRIDGES

AEROSIZE cartridges do not require any maintenance if stored properly. After filling the airbag, replace the gas cartridges with a new set. AEROSIZE cartridges are disposable and they cannot be refilled.

Improper handling can lead to system failure.

The AEROSIZE cartridges must be protected against damage. Damaged cartridges should be replaced with new ones. Keep the cartridges away from heat sources (direct sunlight, heaters, cookers, etc.). Flying with this type of cartridges is approved by IATA (International Air Transport Association, a worldwide airlines trade association).

USE ONLY AEROSIZE CARTRIDGES.

System is designed and certified for AEROSIZE gas cartridges only.

Use of any other gas cartridges is strictly prohibited.

Technical data:

1. The working pressure of one cartridge is 223 Bar
2. The cartridges are designed to operate in temperatures of up to +50°C and the use of the cartridge must be limited to this temperature range.
3. The compressed gas in the cartridges is non-flammable Argon gas. Do not inhale Argon directly, e.g. when deflating the airbag. Argon may be harmful in higher concentrations. Argon is heavier than air.
4. The AEROSIZE cartridge can only be used in the AEROSIZE System. Do not refill disposable cartridges. If the weight of the gas cartridge is less than the minimum weight specified on the cartridge (minimum gross weight), the cartridge should be rejected.
5. Dispose of the old cartridges is the same as of any other products made of steel
6. AEROSIZE cartridges meet the requirements of ISO 11118.

WARNING!

AEROSIZE cartridges must not be exposed to temperatures above +50°C (122°F).

WARNING!

AEROSIZE cartridges should be kept away from sources of heat and ignition (direct sunlight, exposed flame, furnaces, etc.).

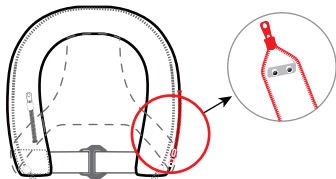
WARNING!

When the gas is leaving the cartridge it may cause the cartridge to freeze up. Do not touch the empty cartridge with bare hands.

FIG. 2 - ARMING THE AEROSIZE SYSTEM INSTALLING GAS CARTRIDGES

1

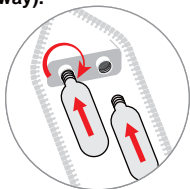
Open the zipper (5) to reveal the threaded holes.



(back of the vest)

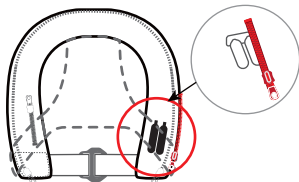
2

Screw in the two gas cartridges, one by one, evenly into the holes (all the way).



3

Close the zipper (5) leaving the screwed-in cartridges inside the pocket.



i

Correctly positioned cartridges - after triggering - will inflate the avalanche airbag with gas.



When CHANGING CARTRIDGES, pay attention to the correct positioning of the gasket.

UNINSTALLING the gas cartridges should be done only after the airbag has been emptied.

WARNING!

The system should be armed **BEFORE** entering the avalanche risk zone.

WARNING!

The AEROSIZE cartridges must not be exposed to impacts. During their operation, they must not be exposed to excessive force.

WARNING!

In order for the system to function properly, the AEROSIZE cartridges must be installed correctly and completely.

V.

PREPARATION FOR INFLATION

Before using this product, you should read and understand all instructions and warnings provided with it, familiarize yourself with its capabilities and limitations, and obtain appropriate training in the use of this product (available at www.aerosize.com).

If you do not know how to use the product, please refer to www.aerosize.com

HANDLING THE AEROSIZE SYSTEM

1 PREPARE

Read the instructions carefully.

2 ARM THE VEST (fig. 2)

Compressed gas cartridges must be installed correctly before using the vest.

3 PUT ON THE VEST (fig. 3)

The vest should be put on and worn in accordance with the safety rules.

4 ACTIVATE THE VEST (fig. 4)

Remove the trigger from the pocket of an armed vest and prepare it for use.

5 INFLATE THE VEST (fig. 5)

Pull the trigger sharply to inflate the airbag.
In the event of an avalanche, the user, by pulling the trigger, releases compressed gas from two AEROSIZE cartridges simultaneously: this will inflate the 170-liter avalanche airbag in approximately 3 seconds.

6 PACK THE VEST (fig. 6)

Correct packing of the vest is required to assure safety when using it again.

7 USE SAFELY

Observe the safety rules to reduce the risk to your life and health.

The inflated airbag is designed to keep the user on the surface of an avalanche or as close to the surface as possible, minimizing the time necessary for the rescuers to extract the avalanche victim.

In addition to activating the airbag, try to keep afloat the avalanche, and when the slide begins to slow down, try to create a space with air around your head.

The product is designed to reduce the risk of being completely buried by an avalanche. The use of the product does not guarantee this 100% though, as it depends on a number of external factors. Moreover, there is still a risk to health or life, even if the user is not buried by an avalanche.



The operation of avalanche airbags is based on the physical principle of inverse segregation. Simply put: in an evenly moving mass of particles in an avalanche, smaller particles fall down and larger ones are carried to the surface. An inflated airbag increases the volume of the victim and greatly enhances the effect of inverse segregation.

The AEROSIZE Avalanche System reduces the risk of being completely buried in snow.

FIG. 3 - PUTTING ON AND ADJUSTING THE VEST

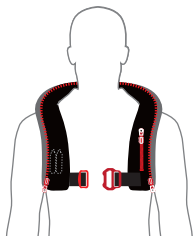
1

Prepare your vest.
Loosen the straps.



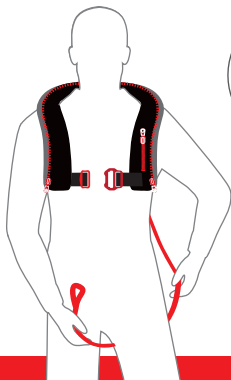
2

Put on the **armed (fig. 2)** vest.



3

Pull the end of the
safety leg loop
between your legs -
from back to front.



4

Pass the larger part
of the main buckle through
one end of the leg loop.



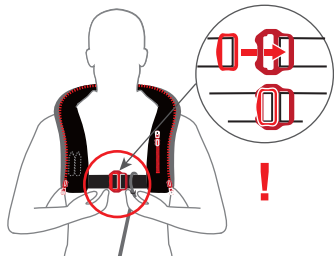
WARNING! The Aerosize vest must not be used without the leg loop strapped. The leg loop prevents the vest from slipping off the body during an avalanche.

Due to the required volume of the airbag, the vest has one universal size.
A correctly put on and fitted vest enables free movement.



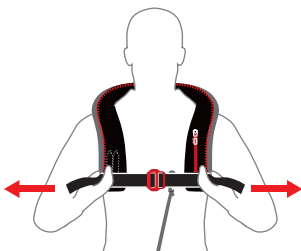
5

Fasten the main buckle.



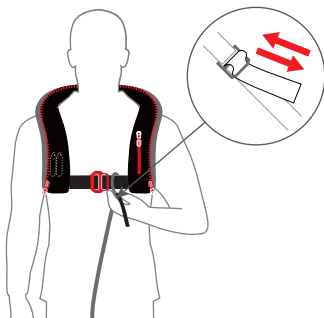
6

Adjust the vest to your body by pulling the ends of the main strap.



7

Adjust the length of the leg loop using the adjustment buckle.



8

When in dangerous terrain, activate the system (fig. 4) by opening the zipper (9) and removing the trigger from the vest pocket.



NOTE!

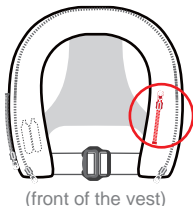
Correct fitting of the vest and fastening it securely to the body are of utmost importance.



FIG. 4 - ACTIVATION OF THE VEST AFTER PUTTING ON PREPARATION FOR USE

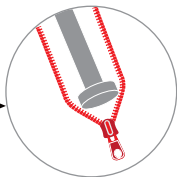
1

Open the zipper (9) to reveal the trigger.



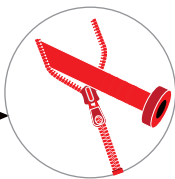
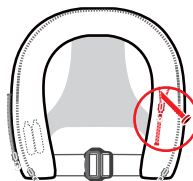
2

Slide the trigger out so that it is easily accessible.



3

Close the zipper (9) leaving the trigger outside the pocket, so that it sticks out from the vest.



i

A correctly positioned trigger is easy to grab and pull quickly in the event of an immediate avalanche threat.

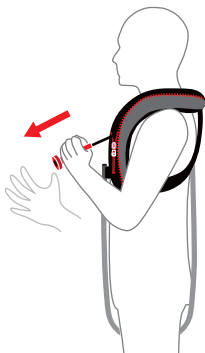
When the system is armed and the vest is put on properly, the airbag can be deployed.

1. Before entering avalanche risk areas open the trigger pocket and make sure the trigger is within easy reach.
2. In an immediate avalanche danger, grab the trigger and pull it down firmly.
3. The airbag will begin to inflate immediately.

FIG. 5 - INFLATING THE AEROSIZE SYSTEM

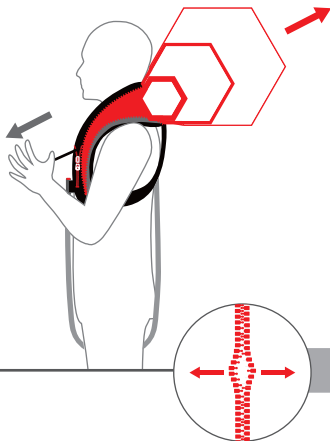
1

In an emergency, pull the trigger sharply (fully out) and release it.

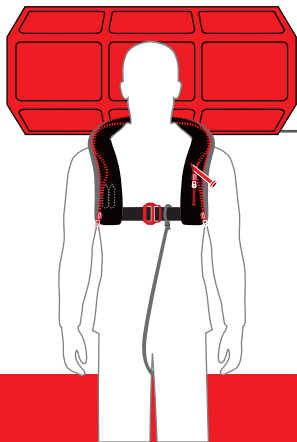


2

The airbag will deploy, tearing the zippers (7) open.



Inflated airbag.



The zipper (7) is specifically designed to allow easy bursting and re-fastening many times.

WARNING!

Do not attach any objects to the vest!
They may interfere with the proper operation of the airbag!



BASIC SAFETY RULES

The AEROSIZE system has been designed to enable putting on and taking off the backpack and equipment without having to remove the vest.

It is permitted to put on a backpack or additional equipment, but they cannot take up the space intended for an inflated airbag, and the backpack straps should be tucked UNDER the vest.

1. Put on the vest first.
2. Then put on a backpack.
3. Place the shoulder straps of the backpack UNDER the vest.

Wear protective clothing UNDER the vest so that the airbag can be inflated freely when the system needs to be used. Nothing may be put on, worn on, attached to, etc. the vest. The vest must be the top outer layer (of clothing, equipment, etc.).

No sharp elements, such as crampons, ice axes, etc., may be attached to and carried near the vest as they may pierce the fabric.

Both at the place of storage and on the trail the system should be stored and used in a way that prevents accidental activation or mechanical damage with sharp objects.

Do not use vest tightening straps for any other purposes (e.g. for attaching skis).

The airbag must always be folded as per the instructions in this manual. Failure to do so may prevent proper inflation of the system and damage the airbag.

After activating and deploying the system, replace the cartridges with argon cartridges supplied by the manufacturer only.

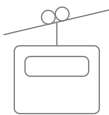
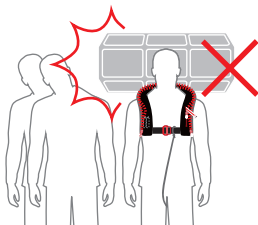
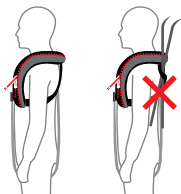
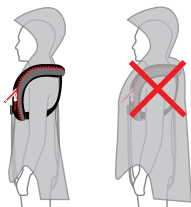
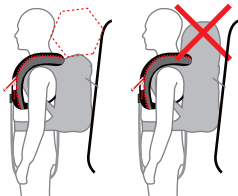
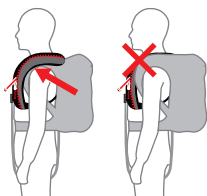
Argon is a noble gas that has no smell, taste or color.

It is non-flammable and non-toxic, but at too high a dose it can cause pulmonary edema, so do not breathe it directly from cartridges or from a filled airbag frame.

Do not inflate the system in small rooms or in a crowd.

After using the system in an avalanche send the vest with the airbag to a service center for inspection to check for any damage (e.g. hitting rocks, rubbing against mountain pine or material carried by the avalanche).

BASIC SAFETY RULES

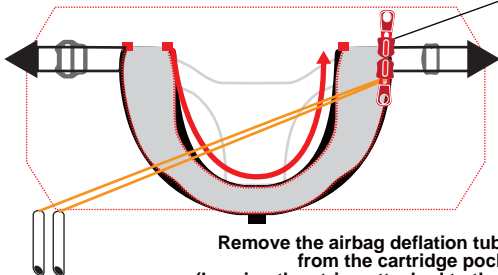


1

Loosen the vest straps.

2

Separate the ends of the zippers at both ends of the vest and move both slides towards the cartridge pocket.

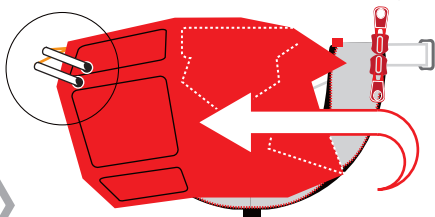


3

Remove the airbag deflation tubes from the cartridge pocket (keeping the string attached to them).

4

Insert the tubes into both valves in the airbag (the smaller one to the frame, the larger one to the air chamber) to empty it. Leave the tubes in the valves as the airbag is folded.

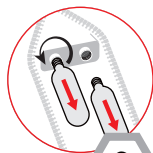


5

Release gas from the airbag by rolling it from the opposite side towards the valves.

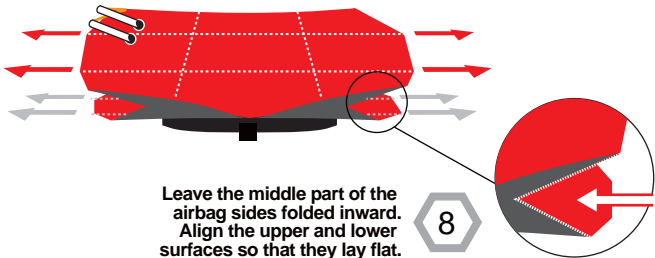
6

Unfasten the zipper (5), unscrew and remove the used cartridges.

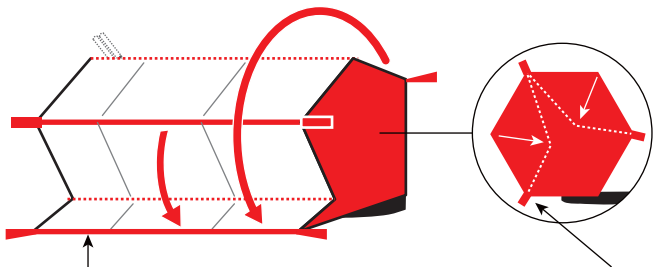


WARNING! Do not twist the airbag while folding it.

- 7** Place the vest horizontally with its back to the ground, placing the airbag ON THE VEST. Arrange the airbag flat, stretching all sections of the frame neatly.

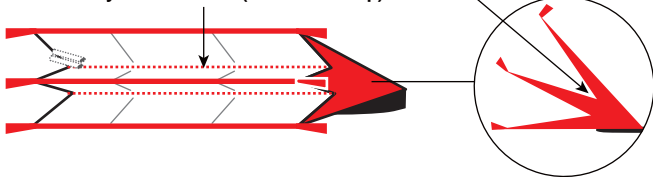


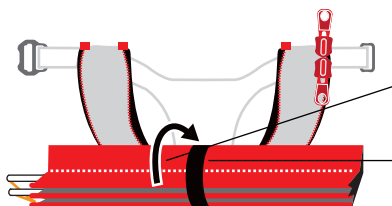
- 9** Fold the airbag lengthwise, placing every odd frame edge (marked with flaps) together.



Start by unfolding the first frame edge with the flap that is closest to you.

Fold every second frame (without the flap) inwards.



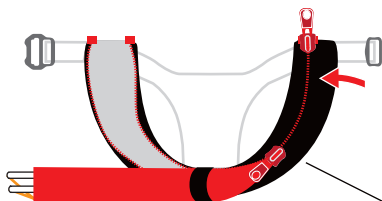


Fold the formed rectangle in half lengthwise.

10

Fasten in the middle with Velcro to facilitate packing.

11

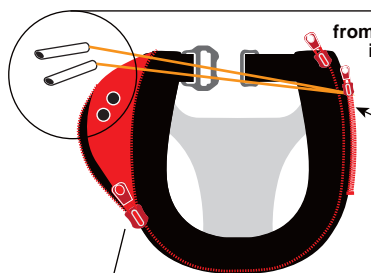


12

Pack the folded airbag into the vest fastening the zipper (7). Start on the side opposite the valves.

Close the zipper (7) tucking the folded airbag inside the vest. Open Velcro.

13



Remove the tubes from the valves, insert them into the cartridge pocket and close the zipper (5).

14

15

Fasten the zipper (7) all the way.



WARNING!

Incorrectly folded vest may prevent the system from working properly.

CLEANING

- The AEROSIZE vest and airbag must not come into contact with corrosive substances, including but not limited to battery acid, battery vapors, solvents, bleach, anti-freeze, isopropyl alcohol and gasoline.
- Use only water (no cleaning products!) to clean the AEROSIZE vest.
- Do not machine-wash the vest or the airbag. If cleaning the vest is necessary, use a damp cloth to clean only the dirty spots. Be careful not to get the vest very wet.
- After cleaning, open all cleaned pockets, hang the vest and dry it unfolded in the open air, in a ventilated place, away from direct sunlight.
- Do not wash the airbag itself.
- The cartridges must not be crushed, punctured or exposed to excessive shock or vibration.
- Do not make new seams, repair seams, burn ends of threads, bleach straps, grind buckles, modify or change the system in any way.
- AEROSIZE Sp. z o.o. shall not be liable for any damages or losses resulting from improper cleaning.

STORAGE

- The AEROSIZE System must be disarmed before storage for a longer period of time.
- The cartridges can be left attached to the system, though we recommend detaching them and pulling the trigger handle to release the spring if the vest is to be stored for a long time.
- Always store the AEROSIZE vest in a cool, dry place, away from direct sunlight and heat sources.
- Optimum storage temperature: 0°C to 23°C (32°F to 73°F)
- Prevent damage from sharp objects, rodents, pets, corrosive substances and mold.
- For safety reasons keep the vest and cartridges out of the reach of children.
- AEROSIZE Sp. z o.o. shall not be liable for any damages or losses resulting from improper storage.

IX. TRANSPORT

Generally you are allowed to take your airbag on the airplane. The guidelines are outlined in the IATA (International Air Transport Association) reference guide under dangerous goods table 2.3A. (see www.iata.org).

The IATA guidelines are only a recommendation for airlines. That is why we advise you to inform your airline that you are transporting an avalanche airbag before starting your trip.

How to get ready for traveling

1. Unscrew the cartridge
2. Print the IATA document.
3. Put the IATA document into your airbag and put your airbag into your travel bag.
4. Check in your travel bag at your airline check-in or carry on as cabin luggage.

The current transport regulations for cartridges can be found on the following website <https://www.iata.org/en/programs/cargo/dgr/dgr-guidance/>

We strongly recommend that you request the IATA guidelines from your respective service center or that you download them yourself from our website in order to be able to show them at the ticket counter. We also recommend that you put the copy of the IATA guidelines along with your cartridge, activation handle and vest in your luggage. If you are traveling within the USA you need to comply with FAA rules (www.faa.gov, Dangerous Goods section).

AEROSIZE Sp. z o.o. shall not be liable for any damages or losses due to travel difficulties based upon the AEROSIZE AIRBAG System.

- Protect the whole AEROSIZE system from sharp edges, rough surfaces and crushing during transport.
- Before using a ski lift, gondola lifts, plane, helicopter, snowmobile and before entering small, closed rooms, make sure that the trigger is stowed inside the pocket.

”

	<p>Avalanche rescue backpack. one (1) per person, containing a cartridge of compressed gas in Div. 2.2 May also be equipped with a pyrotechnic trigger mechanism containing less than 200 mg net of explosive in Div. 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpacks must be fitted with pressure relief valves.</p>	<p>Gas cartridges, small, non-flammable containing carbon dioxide or other suitable gas in Division 2.2. Up to two (2) small cartridges fitted into a self-inflating safety device such as a life jacket or vest. Not more than one (1) device per passenger and up to two (2) spare small cartridges per person, not more than four (4) cartridges up to 50 ml water capacity for other devices (see 2.3.4.2).</p>
<p>Permitted in or as carry-on baggage</p>	<p>YES</p>	<p>YES</p>
<p>Permitted in or as checked baggage</p>	<p>YES</p>	<p>YES</p>
<p>The approval of the operator(s) is required</p>	<p>YES</p>	<p>YES</p>
<p>The pilot-in-command must be informed of the location</p>	<p>NO</p>	<p>NO</p>

www.iata.org/en/programs/cargo/dgr/dgr-guidance/

X.

SERVICE LIFE, INSPECTION AND DISPOSAL

SERVICE LIFE

- The product has a limited life time and should be replaced in case of signs of mechanical wear. The functioning could be reduced due to mechanical wear or improper use. Dispose of the product if you notice any damage.
- With normal use and proper maintenance, the typical life of the AEROSIZE System is about 5 years or 20 deployments. After this time, the use of the equipment should be discontinued. Actual equipment life may be shorter depending on the frequency and conditions of use.
- Factors shortening the life of the equipment include, but are not limited to: jerks, friction, cuts, wear, high temperatures, UV radiation, corrosive substances, mold and other damaging factors.

INSPECTION AND PUTTING OUT OF USE

The AEROSIZE vest must be checked for damage or wear before and after each use.

1. Check the airbag for punctures, tears, abrasions, or other damage that may prevent the airbag from retaining air.
2. Check the attachments between the airbag and the vest for damage.
3. Check the trigger to make sure it is in the correct position and is not damaged.
4. Check the vest for tears or abrasions.
5. Check the vest straps for abrasions or torn seams.
6. Check buckles for damage and confirm that they are operational.

If the inspection reveals any damage or if there are any doubts as to the reliability of the AEROSIZE vest, put it out of use and destroy it or contact the customer service department of the AEROSIZE System manufacturer. Damaged equipment must be repaired before reuse, or put out of use and destroyed to prevent reuse

DISPOSAL

Dispose of the product with domestic waste. Do not mechanically destroy or incinerate the product. This may lead to potential hazards.

- Before using a ski lift, gondola lifts, plane, helicopter, snowmobile and before entering small, closed rooms, stow the trigger inside the pocket and close the zipper.
- Do not store any items in the airbag compartment
- Any modification to the structure, use of the equipment for inappropriate purposes, or failure to read and follow any of the instructions may result in serious injury or death.
- Disarm the AEROSIZE System and stow the trigger before shipping or storage.
- As for any personal protective equipment, it is essential to practice using the equipment and to ensure that the user is able to use the equipment correctly when necessary.
- We strongly advise against buying used equipment. In order to ensure the complete confidence in the equipment, the user must to know its history.
- Do not submerge the system in water.
- The cartridges must not be crushed, punctured or exposed to excessive shock or vibration.
- Do not expose the AEROSIZE vest to temperatures higher than 50°C.
- Physical damage to the AEROSIZE System or the cartridges could result in malfunction.
- The AEROSIZE vest does not increase the chances of survival beyond the purposes this equipment is intended and designed for.
- The vest should be used in conjunction with other elements of avalanche equipment: beacon, shovel and probe.
- This device or any other safety equipment should not influence the user's perception of avalanche hazards.

XII. TECHNICAL DATA, CERTIFICATES, SERVICE

TECHNICAL DATA

Product standard: DIN EN 16716: 2017

Volume of the airbag: ~ 170 liters

Weight of the system: 1985 g

System weight without cartridges: 1640 g

Total weight of both cartridges: 345 g

PRODUCT DESCRIPTION:

Type: AEROSIZE Avalanche Airbag Vest

Company responsible for the development and commercialization in the EC and worldwide:

AEROSIZE Sp. z o.o. Cyfrowa 6, 71-441 Szczecin, Poland

EU declaration of conformity:

WWW.AEROSIZE.COM/DOWNLOADS/EU-DOCF

Certified by:










TÜV SÜD Product Service GmbH. Daimlerstr. 11. 85748 Garching, Germany

SERVICE CENTER:

AEROSIZE Sp. z o.o. Wapienicka 24b, 43-382 Bielsko-Biała, Poland

WWW.AEROSIZE.COM, e-mail: info@aerosize.com

THE LABELS CONTAIN THE FOLLOWING:

A E R O S I Z E	Name of the model of the product		
	Warning! The end user should carefully read the instruction before using the product (PPE)		
 XXXX-XX / XXXXXX	Manufacturing date Year-Month / Individual serial number		
	The CE marking ensures compliance with the essential requirements of PPE Regulation (EU) 2016 / 425		
DIN EN 16716: 2017	Reference for Personal Protective Equipment that is in compliance with the European harmonized technical standard used in the design and CE certification		
The EU declaration of conformity can be accessed on WWW.AEROSIZE.COM			
	Do not wash		Do not machine-dry
	Do not dry clean		Do not iron
	Do not bleach		Warning symbol



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AVALANCHE AIRBAG VEST

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