

# Instruction manual for energy absorbers type EA-1 and EA-1L certified according to EN 355



## EA-1



## EA-1L



Thank you for choosing VERTIQUAL®! You have purchased a high quality product that will reliably protect you and will be your companion for a long time when working at heights and depths.

This manual must be read and understood before using the product! This product will be used with other equipment (components) thus forming a system for working at heights. Please refer to the instruction manual of each component in your system for compatibility and correct use! Following these instructions accordingly is essential for your safety. Failure to do so can result in serious or even fatal accidents! Keep these instructions together with the product, accessible to all users, so they can consult them whenever is needed!

**WARNING!** These instructions are a basic comprehensive guide to the safe use of the purchased equipment. They contain general information about the product, intended to help the user, but cannot cover all the situations that may occur in the daily activities and cannot in any case replace the specialized training courses for safety at heights. This PPE against falls from heights can only be used by well-trained users, who are familiar with the relevant legislation and who have successfully completed a special safety training course for working at heights.

**WARNING!** For works with risk of falling from heights or in depths, a risk assessment must be carried out in advance in accordance with current regulations and legal provisions (EN standards or specific national rules) that will provide adequate measures for safety and rescue!

**WARNING!** Instructions for use are updated when technical or legislative changes occur. The latest version of the instructions overwrites previous versions and is the only valid version. Please make sure you follow the instructions of the most recent version. You can download the most recent instructions from our website [www.vertiqualsafety.com](http://www.vertiqualsafety.com) by accessing the section of each product. For help or additional questions, please contact us at [office@vertiqualsafety.com](mailto:office@vertiqualsafety.com) or Tel. (+40) 0365/882143.

## FIELD OF USE

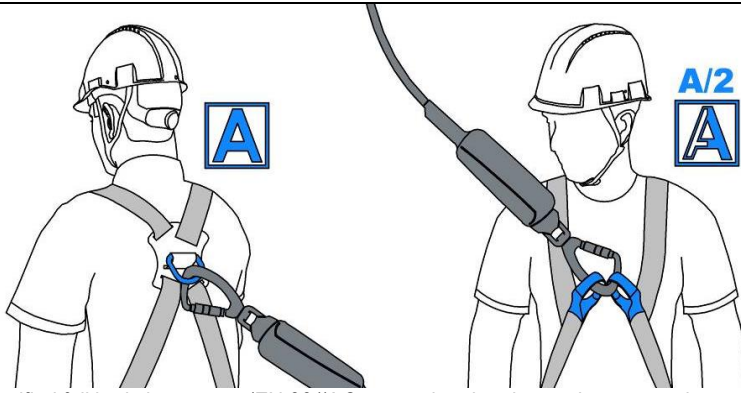
Along with other tested and certified components, energy absorbers according to EN 355 are used in fall arrest systems. The purpose of these systems is to stop the free fall of the user, absorbing most of the shock and distributing the remaining force evenly, while holding the users body in a proper position until he or she is rescued. In case of fall, the energy absorber will deploy and dissipate the energy efficiently, keeping the arising forces below 6 kN (acc. to EN 355). The product must be used exclusively as a PPEaF (Personal Protective Equipment against Fall), in usual environments with temperatures between -30°C and +50°C, without potentially explosive atmospheres, far away from flames, sparks or hot metal splash. Avoid contact with sharp edges, electricity, chemicals, corrosive solutions and substances, excessive heat, oils, paints or any other contaminants. The structures used for anchoring have to meet the requirements of EN 795:2012, must have NO sharp edges and must be capable to withstand minimum 12 kN for full metallic anchors and 18 kN for any other types of anchors.

The anchor point must be located as high as possible above the user and as close as possible to the vertical axis of the user's position, thus reducing the fall distance and prevent dangerous swing falls. The minimum free space below the user (fall clearance) must be ensured to prevent hitting the ground or any obstacles while the fall is arrested.

## DESCRIPTION

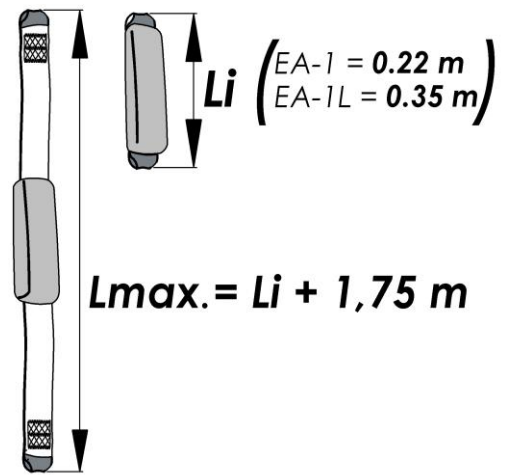
Vertiqual® EA energy absorbers are manufactured from high efficiency energy absorbing webbings. Due to the webbing's special structure and material, it provides very reliable and gentle tear-up characteristics. The absorber has two end loops for connecting to the other components of the fall arrest system. A textile cover with zipper or a transparent tube, protects the webbing and the product label. The absorber is available in two versions EA-1 and EA-1L each having a different packing length. Both versions (EA-1 and EA-1L) had been tested and certified for users weighing up to **100 kg (fully equipped)**.

**WARNING!** This product is developed as a Personal Protective Equipment against Fall (PPEaF). Bringing modifications to it or assigning other uses are strictly forbidden! Each user shall use his own PPEaF as well as his own rescue equipment. The user must know the performances and limitations of his equipment! In case of uncertainty regarding the equipment seek advice from the manufacturer or distributor.

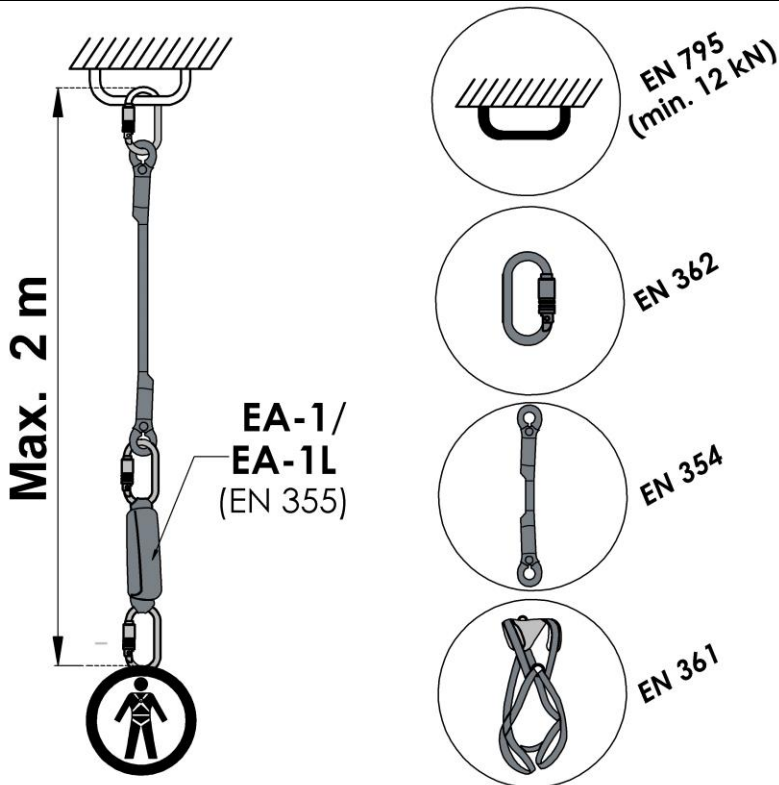


Use only certified full body harnesses (EN 361)! Connect the absorber end to an attachment point on your harness that is marked with "A" or „A/2". These are the only points approved for fall arrest. The points are usually metal rings or textile loops and in case of A/2 marking, the two points need to be connected together!

Refer to your full body harness manual for complete attachment instructions!

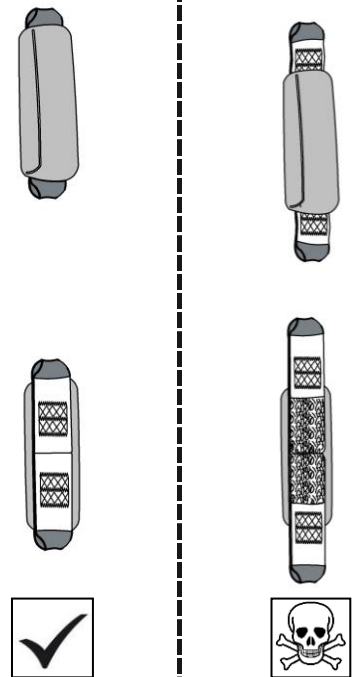


**USE WITH EN 354 LANYARDS (FALL ARREST)**



The length of the final assembly (including connectors) **must NOT exceed 2 m!** Use only certified components and read carefully the instructions of each component you intend to use, in order to validate their compatibility and learn about their limitations etc.! Make sure that there is enough free space below your work surface!

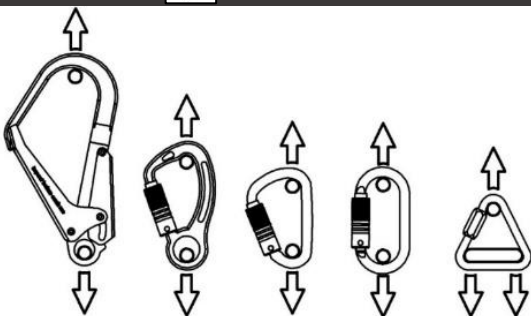
**BEFORE USE**



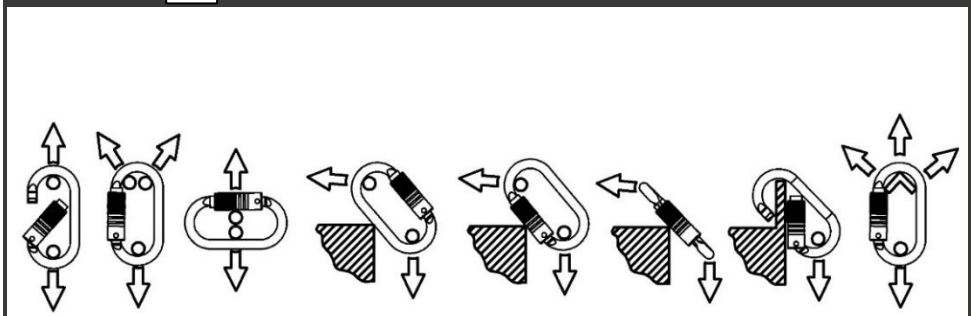
**Check your energy absorber before using it!**  
Never use an absorber that has been damaged or it had deployed (was involved in a fall arrest)!

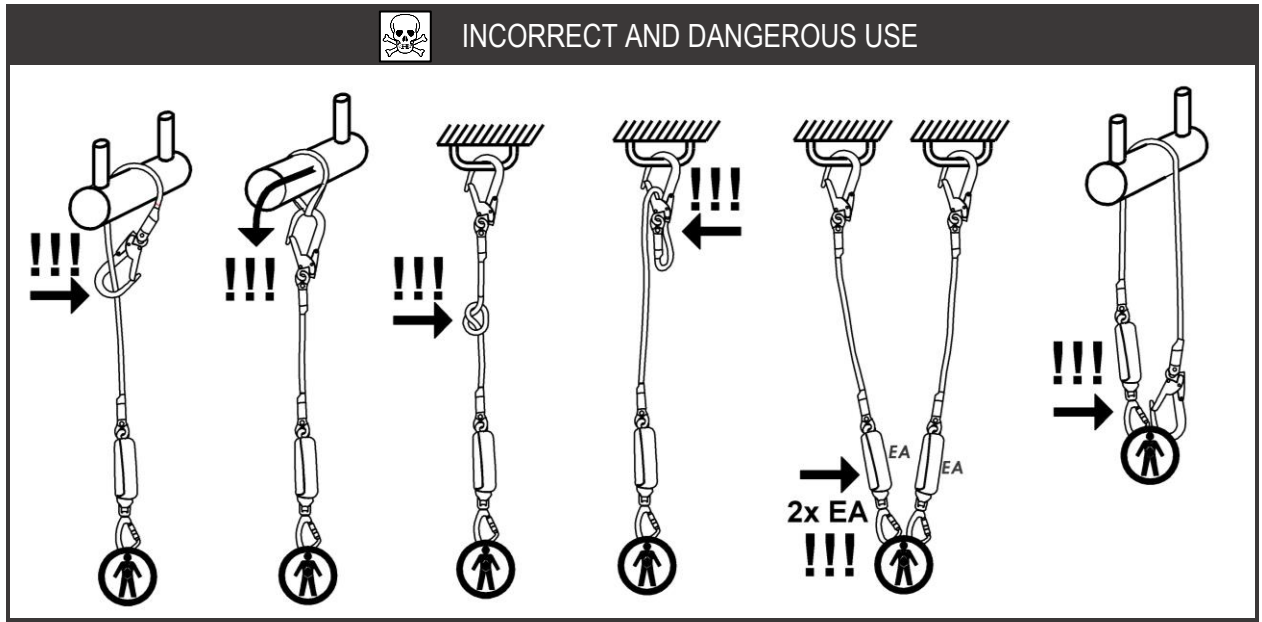
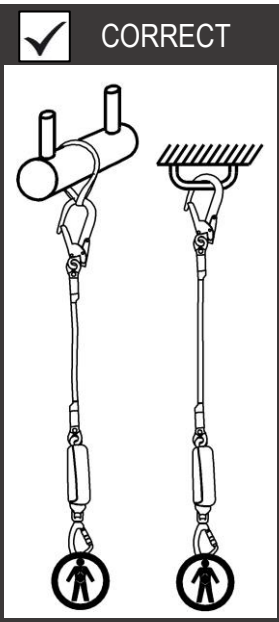
Below some examples of correct / incorrect use of shock absorbing lanyards and carabiners are presented. Please note that these are the most encountered situations in use, but a full list of all possible incorrect uses cannot be covered by this manual. Use only certified components (carabiners, lanyards, etc.) and read their instructions carefully, before use!

**✓ CORRECT**



**✘ INCORRECT AND DANGEROUS USE**





**!!! FALL CLEARANCE !!!**

The **fall clearance (C)** or the minimum free space below the work surface is the distance from the surface the user walks on, to the nearest obstacle!

Make sure that there is enough clearance (C) below your work surface, **before starting the work!**

$C = 6,5\text{ m} - h$

C = fall clearance;  
h = height of the anchor point, measured from the work surface to the bearing point of the anchor;

If the anchor point is located higher than the work surface, the anchor point's height (h) can be subtracted from the **minimum 6,5 m**.

**We recommend that in all situations, a clearance (C) of minimum 6.5 m is ensured below the work surface!**

**SWING FALL HAZARD**

The anchor point must be located as high as possible above the user and as close as possible to the vertical axis of the user, thus reducing the fall distance and preventing dangerous swing falls!

**DANGER: SHARP EDGES!**

KEEP CLEAR of sharp edges, abrasive surfaces or any other factors that can inflict damage to your equipment!

**The SERVICE LIFE** \* of PPE against falls, made of textile materials is 6-8 years under normal conditions, but a **maximum of 10 years** \* from the date of first use. The date of the first use must be noted in the logbook, otherwise the date of manufacture is considered as the date of the first use. **The storage** of new, unused products under optimal conditions (darkness, dryness, original packaging, constant temperature, without chemical vapors, etc.) should not exceed **2 years**. \* PPE that belongs to a single user, has not been used excessively and not often, has been subjected to regular checks by experts, has been found to be "safe" and recorded in the test book, has a complete product history, has not been involved in a fall, is carefully treated and cared for, have been stored in accordance with regulations, have not come into contact with oils, fats or aggressive chemicals, (attention - incomplete list) can remain in use for up to 10 years. Intensive use, heavy and demanding working conditions, incorrect application, incorrect maintenance and care can greatly reduce the service life of the equipment. Certain events, such as falls, high exposure to heat, exposure to corrosive chemicals, can limit the use of your equipment to a single time. A generally valid, binding statement about the duration of use of textile PPE cannot be made, as this depends on a large number of factors such as UV light exposure, working conditions, contact with various substances, etc. The service life of the equipment ends when one of the cases mentioned in the previous chapter occurs or when the inspector / certified expert decides this on the basis of other facts. The theoretical total service life of textile PPE against falls (Storage time + Service life) is limited to a maximum of 12 years from the date of manufacture.

**RESCUE!** A rescue plan must be made before starting the work at heights or depths! It is mandatory to set up and know the specific rescue plan for every situation and to have designated personnel and appropriate means of intervention!

**STORAGE, MAINTENANCE, TRANSPORT:** The equipment should be stored in a dry, cool and well-ventilated room, if possible, in its original packaging. While in storage, this PPEaF must be protected from UV radiation, solar radiation, heat, sparks, incandescent metal splash, electricity, chemicals, sharp objects, heat sources, dust, cement, oils and greases or any kind of contaminants. If necessary, the textile parts can be cleaned using warm water (30°C) then rinsed. Drying the wet equipment will

be made by hanging it in well-ventilated room away from any heat source. When fully dried, the equipment can be stored accordingly in its packaging (bag or box). Transport of the equipment must be made in its protective bag or box, away from any factor that could contaminate or inflict damage.

## MARKING

All VERTIQUAL® PPEaF are fitted with a label which contains the following elements and essential information: name of the manufacturer, name of the model and version (if applicable), length [m], manufacturing date (month and year), standards/norms the product complies to, European CE marking with notified body number, international symbol for reading the instructions before use and the product's serial number. In this case the label also includes warnings and graphic instructions regarding the minimum fall clearance, the allowed user weight [kg] and the length limitation when for using as a shock absorbing lanyard. The label must be always present and readable!

## PERIODIC INSPECTIONS AND CHECKS

The user must perform a visual and functional inspection of his equipment before and after each use! During use, it is important to monitor your equipment in order to identify possible damages inflicted in use, without being aware of it. The equipment must be inspected **at least once every 12 months** or more often if required, depending on the working conditions and compulsory after every incident it has been involved in. Inspections can be carried out only by the manufacturer or by an authorized inspections center. **If the periodic inspections were not performed at least once every 12 months, were carried out by unqualified persons, or without strictly respecting the manufacturer's instructions, the warranty is lost and the manufacturer declines any responsibility related to the equipment!**

**Inspection Log!** Every PPEaF is delivered with an Inspection Log. This document must be kept safely and sent along with the product for every inspection. The Log (table) contains important data regarding your equipment. The date, signature of the inspector and the results are also recorded. The **date of first use** must be written in the Inspection Log by the user!

**Repairs** or any other modifications can be performed only by the manufacturer! Any repairs, modifications or additions (even minor ones) performed by anyone else are strictly forbidden, lead to the loss of the manufacturers guarantee and any responsibility related to this product!

## WARRANTY AND LIABILITY!

The manufacturer offers a **24 month** warranty for this PPEaF from the date of first use. The user has the obligation to write the date of first use in the Inspection Log. If the date of first use was not filled in, the warranty period will be calculated from the manufacturing date. The warranty is applicable only for material or manufacturing defects! Damage resulting from normal wear and tear, corrosion, poor maintenance (or no maintenance at all), those resulted from carelessness, accidents, fall arrest, unauthorized repairs or modifications, wrong use of this PPEaF or any other reasons are NOT covered by the warranty! The warranty does NOT cover the springs of the carabiners as these can be damaged due to inadequate storage or improper use. Warranty claims only apply to the product. All claims by the user or any other party for the direct, indirect or any consequential damages resulting from the use of this PPEaF are excluded from guarantee and liability assumptions. Any claims in this regard are hereby expressly rejected. The user must be informed regarding the dangers of work at heights and depths. He should be aware of the risks and he has to be aware that he is the only responsible for eventual damage, accidents or even death which may result from the use of this equipment. If the user is unable to do so or if he does not have the competence to do so, he cannot use this PPEaF. VERTIQUAL Engineering SRL herewith rejects any liability claims for direct, indirect, accidental or consequential damages resulting from the use of this PPEaF (Personal Protective Equipment against Fall).

**The EU type examination** was carried out by: INCDPM (The National Research and Development Institute for Occupational Safety-Bucharest). European notified body: NB 2756.

The **EU Declaration of Conformity** can be downloaded from our website [www.vertiqualsafety.com](http://www.vertiqualsafety.com) by accessing the product's dedicated section.

INSPECTION LOG			
Product:			
Owner / Company:			
Serial/Batch No:	Date of purchase:	User:	Date of first use:
Inspection date	Results of the inspection		Signature of the inspector