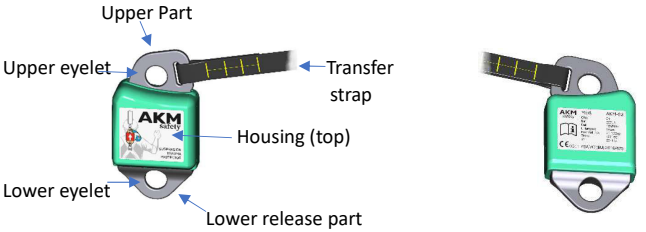
AKM-02 User Instructions

Version 2.0 2025

AKM safety

Please read these instructions thoroughly before using the AKM Release Device (PPE supplement).

1. Definitions



Front view *(differences in color are possible)* *Rear view*

MAIN MATERIALS:
Aluminium 7075
Stainless steel
Plastics ASA, PA12
Silicone oil 1000-4000 cSt

2. Arrangement

The AKM is inserted between the energy absorber and the safety harness.
The "upper eyelet" is connected to the lower end of an energy absorber, while the "lower eyelet" is connected as close as possible to the back attachment of the safety harness. The transfer strap (fed through the gap in the "upper part") is connected to the front attachment point (chest attachment) of the safety harness. See also 4.

3. Function

After a fall and continuous tension between the upper and lower eyelets of >350N, the "release part" moves 5mm out of the housing (start of the release delay). After the delay has elapsed, the "upper part" automatically disengages completely from the housing, the load is therefore transferred to the transfer strap, and the fallen person is then secured at the front securing point. This can drastically reduce the risk of suspension trauma and multiply the time window for rescue.

4. Requirements for adjacent elements and connections

4.1 Safety harness

The safety harness, which must be used at all times, must be certified in accordance with legal standards and norms: EN 361.

4.2 Front connection to the safety harness

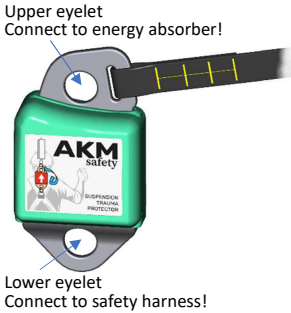
The safety harness must have one or more fully load-bearing attachment points on the chest. This can also be achieved by connecting two load-bearing loops on the chest straps using a connector that complies with EN 362 and is as small as possible. It is essential that the free end of the transfer strap, which is led over the right shoulder, is also attached to this connecting device, as shown in the picture.

4.3 Securing via energy absorber

An energy absorber in accordance with EN 355, with a fall force limitation of 6 kN, must be attached to the upper eyelet of the AKM.

4.4 Rear connection to the safety harness

The lower eyelet of the AKM must be connected to the rear attachment point of the safety harness, where the energy absorber is normally hooked in, using a connector that complies with EN 362.



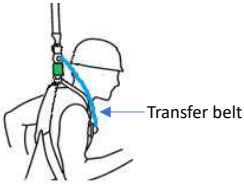
If connections are missing or incorrectly attached, there is an acute risk to life!

For correct positioning, see also the imprint on the AKM, as well as:
www.akm-safety.at

4.5 Transfer belt

A transfer belt with a width of approx. 20 mm and a breaking load of ≥22 kN is fed through the gap in the upper part of the AKM and must be connected to the front attachment point(s) of the fall arrest harness using a connector in accordance with EN 362, as shown in *4.2*.

The transfer strap must be routed from the upper part of the AKM over the right shoulder, that is, along and on top of the right shoulder strap of the fall arrest harness, to the front attachment point and hooked in. See diagram and *4.2*.



The two Velcro fasteners on the transfer belt must be closed under the right shoulder strap. See image.

Care must be taken to ensure that the energy absorber is NOT mistakenly threaded under the transfer strap when putting on the safety harness, as this could impair the function of the AKM.

It is extremely important to connect the transfer belt correctly to the safety harness at the front, as shown in *4.2*. **Failure to do so could result in death!**

5. General instructions for use

5.1 Single release property

After a complete or incomplete disengagement (the latter, for example, in a test device), the AKM must no longer be used. It can be put back into operation by the manufacturer or a person/company authorized by the manufacturer by replacing the housing. Otherwise, it must be discarded, including the disengaged upper part, and permanently destroyed.

5.2 Housing

The housing must not be opened under any circumstances. It cannot be opened without being destroyed and does not contain any parts that can be maintained by the user. If there is any visible damage or change of a mechanical, thermal, or chemical nature to the housing or the outer metal parts, as well as the transfer belt, whether intentional or unintentional, the AKM must not be used further and must be discarded and permanently destroyed or returned to the manufacturer.
The housing is IP67 compliant. Seals are located between the housing and the lower release part and between the housing and the upper part.

5.3 Activation of the release delay

When the tensile load exceeds 350 N, the release part is pulled out of the housing by 5 mm with a noticeable jerk (whereby the upper part is neither completely nor partially released), and the factory-set delay until the upper part is released begins. If this pulling out has been caused accidentally by "leaning into the belt," the jolt provides noticeable feedback, and the pull can be reduced within the release time, causing the release part to move back into the housing with a second noticeable jolt and resetting the release time.

5.4 Intended load sequence

The intended sequence consists of several phases:

a) Deceleration of the fallen person by means of an energy absorber with a tensile force of max. 6 kN at the AKM, the release part extends 5 mm from the housing,
b) Stabilization of the tensile force on the AKM to the weight of the fallen person (nominal 600 to 1000 N), simultaneous completion of the load-independent release delay,
c) Disengagement of the upper part, transfer of the suspension to the front via the transfer strap; if all parts are designed in accordance with *4.*, no forces >6kN occur during this process,
d) The person is securely suspended at the chest.

5.5 Clearance

The clearance space to be ensured below the work area increases by 0.60 m when using the AKM.

For safety reasons, it is essential to check the clearance height at the work site in accordance with this specification before each use and during use to ensure that, in the event of a fall, the person does not hit the ground or any other obstacle, including moving obstacles (e.g., work platform, truck).

5.6 Temperature and influences during use

The permitted operating range (ambient temperature) according to current certification is -20°C to +60°C. The release delay time varies by a maximum of +- 20% in this temperature range.

It should be noted that direct sunlight on the AKM can cause its temperature to rise well above the air temperature. In such cases, a heat-insulating cover for the AKM must be provided.

During use, the AKM must not come into contact with oils, alkalis, acids, solvents, fire, heat sources >60%C, welding sparks and drops, or similar.

5.7 First use

The device card, which is provided and must be kept, must be filled out before first use (specifically, the date of manufacture and purchase, date of first use, serial number, and factory-set delay time as indicated on the AKM).

Warning: The safety of the user depends on complete documentation on the device card. The product must not be used without a fully completed device card.

5.8 Before each use

The AKM must be visually inspected on all sides; *5.2* must be observed. Furthermore, the legibility of the product labeling on the product must be checked.

The transfer belt and its seams must also be visually inspected on all sides for wear.

Warning: The safety of the user depends on these visual inspections of the product being carried out.

5.9 Annual inspection

The periodic inspection must be carried out every 12 months by the manufacturer, a person/company authorized by the manufacturer, or a competent person in accordance with *5.8,* including the Velcro fasteners, and confirmed in the device card. If the last periodic inspection was more than 12 months ago, the product must not be used.

Warning: The safety of the user depends on this annual inspection of the product being carried out.

5.10 Product lifetime

The normal period of use is 5 years and begins with the month of manufacture. After this period, the AKM must be dismantled and inspected by the manufacturer or a person/company authorized by the manufacturer. In normal cases, the AKM can then continue to be used after replacing the housing.

5.11 Care and maintenance

No maintenance/repair can be carried out by the user, see 5.2.
Superficial dirt can be removed with standard dishwashing detergents and lukewarm water. Non-corrosive disinfectants can be used.
Acids, strong alkalis, solvents of any kind, chlorinated or corrosive cleaning agents must not be used.
High-pressure cleaning devices must not be used.

5.12 Storage and transport

Storage and transport must be arranged in such a way that the AKM does not come into contact with acids, alkalis, solvents of any kind, chlorinated or corrosive substances, oils, temperatures below -25°C or above +70°C, sharp-edged parts, or loads of > 10N/cm^2.

5.13 Warnings

This product may only be used by competent and physically and mentally healthy persons whose physical condition allows the safe use of PPE systems in general and who have read and understood these instructions for use in full. If you are unsure whether you have fully understood these instructions, you must not use this product.

We recommend that you take all necessary measures for a safe rescue before and during use.

The product may only be used for the purpose specified in these instructions and under the specified conditions of use.
All requirements under *4.* and *5.5* must be met without fail, otherwise there is an acute risk to life.

6. Load tests performed

6.1 Along the longitudinal axis of the AKM

Although the prescribed energy absorber only allows a maximum tensile force of 6 kN between the upper and lower eyelets of the fall arrest device, the manufacturer tested the breaking load between these two points at >24 kN in the unhooked state for 3 minutes.

6.2 On the upper part of the AKM

When unhooked, the upper part acts as a connecting device between the energy absorber and the transfer strap. The maximum breaking load of the upper part under tension between the upper eyelet and the slot for the transfer strap was tested at >22kN for 3 minutes.

6.3 Release safety

The release after an initial force of 12 kN between the two eyelets for 30 seconds, followed by a decrease to 6 kN, was successfully tested by the manufacturer.

6.4 Weather resistance

Corrosion resistance was successfully tested by placing an AKM in a 0.5% saline solution for 48 hours.

7. Certifications

The AKM Model 02 release mechanism (PPE supplement) has been tested in accordance with the PPE Regulation based on EN 354, EN 355, and EN 362 by the notified body "ALLGEMEINE UNFALLVERSICHERUNGSANSTALT - SICHERHEITSTECHNISCHE PRÜFSTELLE," Twin Towers, Wienerbergstrasse 11, A-1100 Vienna, Notified Body Number 0511.

8. Manufacturer

AKM Dzugan und Österreicher OG
An der Scheibenwiese 3A/2
1160 Vienna
Austria

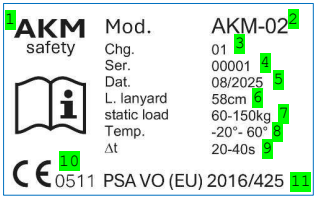
Tel. +43 676 4703696
mail: office@akm-safety.at

Further information and downloads at:

www.akm-safety.at

9. Explanations of the labeling on the product

Back:



Front:

1 Manufacturer, see *8*.
2 Model
3 Production batch
4 Serial number
5 Month of manufacture
6 Length of the transfer belt
7 User weight range
8 Temperature range of use *)
9 Delay time for release in seconds
10 CE mark, notified monitoring body
11 Standard
12 Note on correct installation

*) According to certification

1. Internationalization

These instructions for use must be translated by a reseller into the language of the country in which the product is used, unless the translation is provided by the manufacturer.

DEVICE CARD

Release Device AKM-02 (PPE-supplement)

Serial number	
Date of purchase	
Name of user	

Date of manufacture	
Date of first use	

Factory-set release delay Δt according to product label in seconds:

Please tick	12 - 20	20 - 40	40 - 80

Annual inspections:

	Date	Comment	Name / Signature
1			
2			
3			
4			
5			