Rescue, Hoisting and Abseiling Equipment
ASG 300 Hub
EN 341 / EN 1496
ANSI / ASSE Z359.4-2007 3.2.7 and 3.2.8
CE 0158

Technical data:

Manufacturer	:	RK Sicherheitstechnik
Type	:	ASG 300 Hub
Device class	:	A
Serial no. / Yr. of manufacture	:	……./…….
Permitted abseiling height	:	200 m max
Permitted abseiling height for 2 perso	:	125 m max.
Max. abseiling load	:	150 kg
Max. abseiling load for two persons	:	225 kg
Abseiling speed	:	0,7 m/s
Device weight	:	1,4 kg (without rope)
Rope length	:	…….. m
Examination departement	:	Dekra Exam GmbH Dinnendahlstraße 9 D-44809 Bochum

CE 0158

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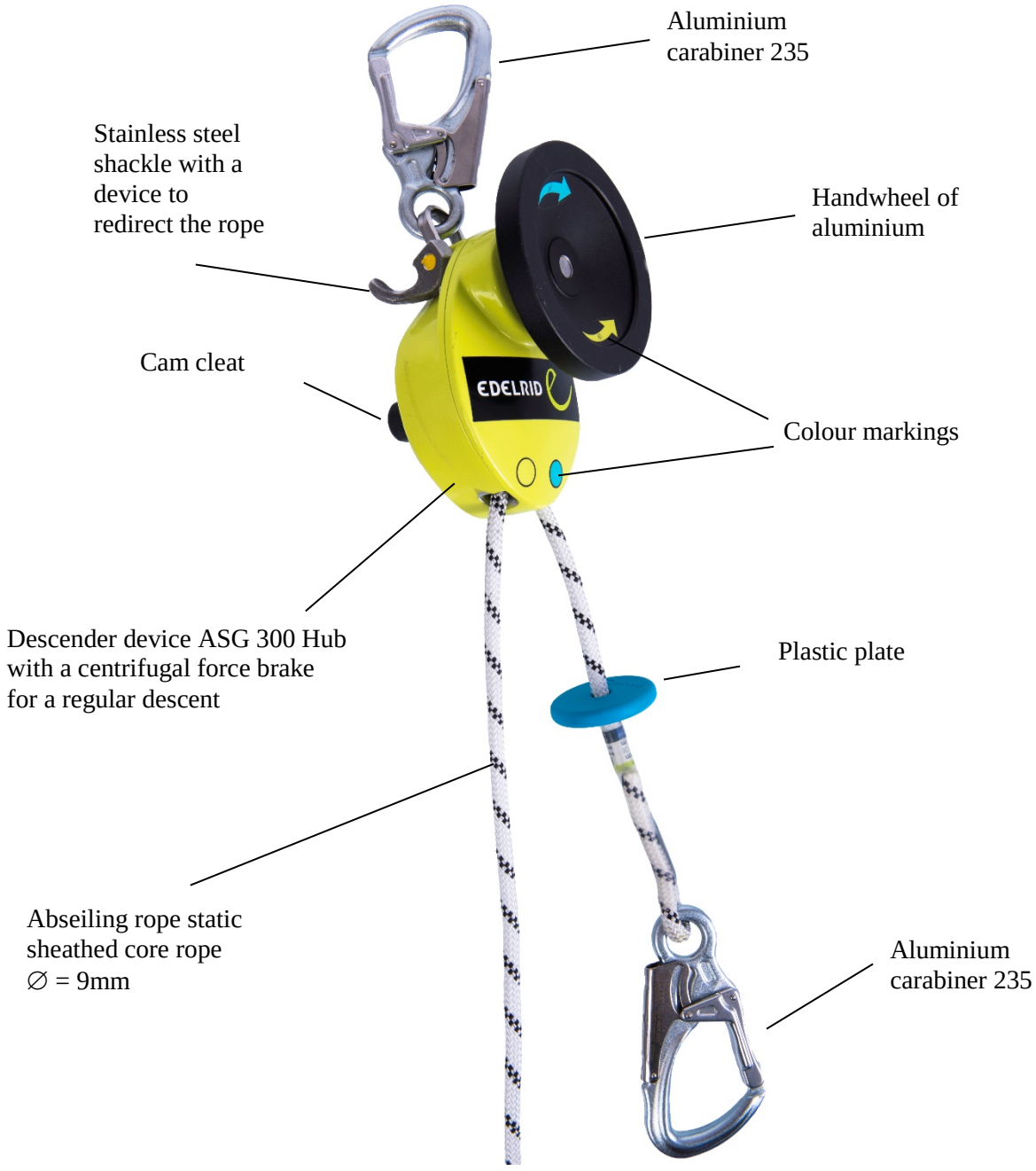
Illustration of the ASG 300 Hub



1. Description

The Abseiling Rescue Device ASG 300 Hub is used for the rescue of injured persons from high or deep work locations.

The abseiling device ASG 300 Hub is not a fall arresting system. The temperature-dependent utilisation range of the abseiling equipment lies between ambient temperatures of –30°C to 60°C. If there is an application in a surrounding temperature under 0°C, the decender device has to be protected against humidity / wetness, to avoid a freezing process e.g. inside the device at the brake unit.

2. Marking / Identification lable

The descender device must be marked with an identification lable as per EN 365 : 2004

Details on the identification lable	**explanasion**
RK-Sicherheitstechnik	name of the company / logo of the company
CE 0158	index of the notified examination department
	advice, that the user has to read and follow the instructions of the manufacturers´ manual
EN 341 EN 1496 ANSI/ASSE Z359.4-2007 3.2.7 and 3.2.8 EN 341	type tested as per the respective European standard
Descender and rescue device AG 10 K Hub A, ASG 300 Hub	name of the product
Serial.-Nr. #####	serial number of the manufacturer
Year of constr.: #####	Yr. Of manufacture
Length of rope:	length of the abseiling rope
Max. abseiling load	maximum abseiling height with a maximum abseiling load of 100 kg

3. before application

a. Visuell inspection

The abseiling device must be visually examined by the user prior to each use in order to confirm that the abseiling device and the rescue rope are in a fit-for-use condition.
With determination of any damage at rope, equipment housing or safety snap hook the equipment has to be withdrawn immediately from use and has to be delivered to the manufacturer or a person designated by the manufacturer for the examination.
The enclosed reference sheet (topic 11) of the manufacturer for the execution of the visual examination is to be considered.
in case of emergency and if the equipment was packed and sealed by a skilled expert you could pass on without a visual inspection.

b. Manual / instruction for use

The user has to read the manufacturers´ manual before application and has to follow these instructions. With every abseiling device there has to be a manual in the national language of the land of delivery. In case of a resale in another country the distributor has to ensure that the user get an instruction for use in the respective national language.

c. State of health of the user
According to the legal and official regulations there has to be a confirmation for the physical qualification of the user. If there are physical troubles directly before the application (e.g. vertigo), which could constrain the user, the user is not allowed to start his work.
If there are physical troubles during a working process, the user has to interrupt immediately.

d. Instruction and rescue plan
Before the application there must be an instruction for all relevant safety rules of the abseiling device and all other kind of personal protective equipment which has to be used during the working process. Only skilled and trained persons are allowed to use the abseiling descender device and the personal protective equipment.

A rescue plan must be present for the user, which describes all action needed for emergency and rescue situations.

4. Preparation

The pre-assembled abseiling and hoisting equipment is ready for use after its removal from the equipment bag or case and after making the visual examination.

The ASG 300 Hub must be visually examined by the user prior to each use in order to confirm that the complete equipment is in a fit-for-use condition. With determination of any damage at rope, equipment housing, shackle, safety snap hook or the handwheel the equipment the device is to be withdrawn immediately from use and is to be delivered the manufacturer or a person designated by the manufacturer for the examination. The enclosed reference sheet of the manufacturer for the execution of the visual examination is to be considered.

An anchor point as per EN 795, with a minimum loadability of 1000 kg and at an adequate height (approx. 2.0 m measured from the floor), must be available for the securing the abseiling device with the carabiner. The anchor point should – when possible – be at a position on the structure which allows a free abseiling without obstruction.

The carabiner located on the abseiling device is hooked into the eye of the anchor point and secured with the swivel nut. The textile rope is lowered coil-free to the ground. The abseiling is also possible if the rope stock remains on the platform.

The rescue rope must be inserted into the ASG 300 Hub so that the carabiner on the end of the rope is located on the device side opposite to the aluminium shackle. The rescue rope must be able to freely run in and out at the rope entry and rope exit points of the abseiling device.

Avoid abseiling over sharp edges whenever possible and maintain an adequate distance from the wall (approx. 0.5 m) in order to make the abseiling process easier. An edge protection device should be placed under the rope to protect the rope when an adequate spacing distance cannot be maintained.

Note: It must be ensured that the persons involved in the rescue are always secured during the entire rescue process; i.e. if a railing is not available, the persons must be secured, for example, by way of a full-body harness as per EN 361, connecting devices as per EN 354 and energy absorbers as per EN 355.

5. Rescue of casualties

- **Hoisting function**

The persons must wear a full-body harness as per EN 361 or the rescue harness as per EN 1497 (observe the respective instructions for use).

After the ASG 300 Hub has been secured above the casualty as described, the carabiner at the rope termination (located on the left of the cleat) must be hooked into the chest or back eye on the full body harness of the casualty and secured with the swivel nut.

The rope between the abseiling device and the person to be lowered/hoisted must not be a slack rope; the free rope on the other side must be pulled downwards with force. The free rope is deflected by inserting it into the aluminium shackle so that it can be clamped in the cam cleat.

Rotate the handwheel in the 'UP' direction in order to hoist the casualty up to a safe recovery platform or up to a point where the casualty can be released from his fall protection device.

The rope located in the cam cleat must be kept tight during the hoisting of the casualty with the handwheel in order to prevent an unintentional descend.

- **Abseiling function-abseiling of the Dasualty person**

Pull the rope located in the cam cleat out of the cam cleat and lower the casualty. The rope removed from the cam cleat must be guided during the abseiling process by allowing it to lightly slip through the hand. The rope must be lead throught the alumium shackle during the whole abseiling process.

The descending speed will be controlled automatically by a centrifugal force brake (standard speed of approx. 0.7 m/s)[1]. It is also possible to interrupt the descend by braking (holding) the upward travelling rope with the hand.

Note: It must be ensured that the rope travelling upwards during the abseiling process does not catch or hook on the structure and consequently interrupt the abseiling process. Attention should be given to the avoidance of obstacles during the abseiling process.

The rope must be lead throught the alumium shackle during the whole abseiling process, to reduce the required strength during the manuell stop.

6. Alternatives for recovering the rescuer

- **Simultaneous recovery of rescuer and casualty**

The rescuer can descend simultaneously with the casualty when the rope reserve is already located on the ground.This process is only permitted up to a maximum abseiling height of 100 m.

Both persons to be abseiled must wear a full-body harness as per EN 361 or the rescue harness as per EN 1497 (observe the respective instructions for use).

After the injured person was lifted to a secured platform, the rescuer can lock the carabiner at the end of the rope, which is located in the chest or back eye of the full-body-harness of the injured person into his own chest eye too and secure the carabiner with the swivel nut.

The rope between the abseiling device and the person to be lowered must not be a slack rope; the free rope on the other side must be pulled downwards and held with force. The free rope is leaded through the aluminium shackle during the process. Both persons can now abseil from the rescue platform by releasing the held rope.

The descending speed will be controlled automatically by a centrifugal force brake. It is also possible to interrupt the descend on the upwards sliding rope by braking with the hand.

[1] The specified abseiling speed of 0,7 m/s is valid in the case of available rope stock of the ground.If the rope stock is left on the place from which the avseiling proccess is running, the abseiling speed increases (approx.10%).

Special reference:
If no more persons are on the platform, an individual person is able to abseiling itself like describe above, but it does no longer exist for the entire abseiling way the possibility of manual stopping, because after passing the half abseiling distance, the “coming up rope” is above the abseiling person.

The simultaneous abseiling of two person allows a casualty to be lowered under accompanying medical supervision.

- **Recovering the rescuer after the rescue process**

After completion of the rescue operation, the ASG 300 Hub is released from the anchor point by the rescuer and the carabiner located on the rope termination of the free rope is hooked into the anchor point and secured with the swivel nut. The carabiner on the ASG 300 Hub is hooked into the chest eye of the full-body harness so that the person can descend by way of the abseiling rescue device.
The rope below the device (run-in-point of the rope) must be pulled downwards and held with force – the rope must not be a slack rope. The rope is further leaded through the aluminium shackle. The person can now abseil from the rescue platform by releasing the held rope.

The descending speed will be controlled automatically by a centrifugal force brake (standard speed of approx. 0.7 m/s). It is also possible to interrupt the descend by braking (holding) the upward travelling rope below the device with the hand, so that a lowering of the device along the rope is not possible.

During this described process, the rescued casualty remains on the ground without being released from the rescue rope by a third person.

7. Storage and transportation

The rescue equipment should be stored in a dry and cool room and protected from UV light. Avoid contact with acids, caustic liquids and oils. Rope which has been unavoidably wetted should only be dried in a natural way.
A strong equipment bag or equipment case should always be used for the transportation of the abseiling equipment in order to avoid a damage by external influences.

8. Cleaning

A cleaning of the textile components of the abseiling equipment may only be carried out by the manufacturer.

9. Maintenance

The abseiling equipment must be visually examined by the user prior to each use in order to confirm that the equipment is in a fit-for-use condition.

The rescue equipment is to be withdrawn from use and subjected to an inspection by the manufacturer when damage to rope, carabiner or the abseiling device is ascertained.

With determination of any damage at rope, equipment housing, shackle, safety snap hook or the handwheel the equipment the device is to be withdrawn immediately from use and is to be delivered the manufacturer or a person designated by the manufacturer for the examination.

A utilisation period of 6-8 years can be assumed for the textile ropes under normal conditions of use.

Attention: A modification or add-on to the abseiling device is not permitted.

10. Inspection

a. Normal application

The rescue equipment must be inspected by the manufacturer or a qualified person at least 1 x year.

In the case of numerous use or greater stressing (e.g. environmental or industrial factors affecting the materials), the complete abseiling equipment should be subjected to inspection at an accordingly higher frequency.

The abseiling equipment must be inspected by the manufacturer after every use for rescue (not training)!

After 1000 m descending work the device must be inspected by the manufacturer or a qualified person authorized by the manufacturer. Also the rope must be inspected after 100m descending work. Regarding the hoisting function, please read 10 b).

b.) inspection of devices used at training facilities

On account of the numerous use of the device during trainings it is an obligation, that the device is visually examinated by an expert prior to each use. The enclosed reference sheet of the manufacturer for the execution of the visual examination is to be considered.

Additional it is also an obligation to make a Service inspection (opening the device) on devices which are used for trainings considering the following Service inspection intervals by a expert (a trained coach).

Service inspection intervals specified by the manufacturer

DESCENDING

Device usage	**Service inspection interval**	**Rope inspection interval**
Exclusively descending with one person, maximum descending load 110 kg[2], maximum descending height 200 m	after 1000 m descending work	After 1000m of free descending, i.e. the rope does not run over an edge or similar.
Permanent descending with 2 persons, maximum descending load 225 kg, maximum descending height 125 m	After every 2nd descent	After every 2nd descent.

HOISTING

Device usage	**Service inspection interval**	**Rope inspection interval**
Maximum hoisting load 110 kg Maximum hoisting height 8 m	8 m	8 m

Example: Hoisting of 1 x 8 m with a 110 kg load inspection necessary
Hoisting of 10 x 0.8 m with, in each case, a 110 kg load inspection necessary

All stated limit values for the inspection intervals apply only for devices and ropes that do not show signs of wear. If there are noticeable signs of wear on the device or rope that do not make the withdrawal from use of the device/rope necessary, the inspection intervals must be shortened, i.e. all the stated guideline values (metre data) must be halved in this case.

[2] The reduction of the maximum descending load for one person from 150 kg to 110 kg and the reduction of the maximum hoisting load from 150 kg to 110 kg are due to the permanent stressing in training use, in contrast to the one-off device use in a rescue use case.

A general requirement is that the device must be inspected after every training unit on a day before the next use – even if the aforementioned limit values for the inspection intervals were not reached during the previous training unit.

A device inspection is required before a change between the pure descending training and the training of the hoisting function even if the aforementioned limit values have not yet been reached. A summation of the values until the reaching of a limit value is not permitted.

Example:

INCORRECT !!
990 m descend. Work → change w/out inspect. → 7.5 m hoisting → change w/out inspect. → 10 m descending ⍾ inspection

CORRECT !!
990 m descend. Work → change **after** inspect. → 7.5 m hoisting → change **after** inspect. → 10 m descending ⍾ inspection

The manufacturer's Inspection Lists for the performance of the service inspection and the relevant Instructions for Use must be observed.

The performed descending work and the done revision examination must be entered into the attached list for documentation purposes. You must separate the rope-work between abseiling and hoisting.

NOTE: Authorization for the execution of training courses and exercises
Application training courses may be implemented only by persons who were trained by the manufacturer or a competent person named by the manufacturer and who have a certificate of the training.
Exercises may take place only under supervision of a person, who participated on application training course by the manufacturer or a competent person named by the manufacturer and is competend and can verify this by a certificate.

The manufacturer or a direct representative of the manufacturer trains trainers / coaches. The training to the coach contains at the same time the training to experts. The trained coach is entitled to carry out application training courses as well as expert training courses. The coach is not entitled to accomplish training courses for coaches.

11. Info sheet for visual inspection of abseiling and abseiling-rescue hoist

Inspection of the identification lable
The descender device must be marked with an identification lable as per EN 365. If the identification lable is not present or not legible, the descender device has to be withdrawn from use and an inspection has to be done by the manufacturer.

Inspection of the device housing

Inspection of the rope entry and exit points
The wear at the rope entry/exit point must be checked. The rope entry/exit point must not show a wear greater than 2 mm. The device must be withdrawn from use if the wear is greater. The material in the wear area has a polished, smooth, bright surface. The wear shows a severe trough formation on the material.

Inspection of the device housing

1.The housing halves must be checked for corrosion, mechanical damage, deformation and cracks.
This check is carried out visually. The device must be withdrawn from use and sent to the manufacturer for inspection if it shows cracks, deformation, corrosion or mechanical damage.

2. Inspection of the cylinder head screws for completeness and tightness.
A visual inspection for the presence of all cylinder head screws must be carried out. The insertion depth of the screws shows if a screw is loose. Screws found to be loose during the inspection must be tightened with the corresponding spanner (accessory set). The device must be withdrawn from use if not all the screws are present.

Inspection of the safety carabiner and the shackle
The safety carabiner and the shackle must be visually inspected for corrosion, mechanical damage, deformation and cracking. The equipment must be withdrawn from use if damage is present.The correct functioning of the catch of the safety carabiner and the rivet on the safety carabiner must also be checked. The catch of the safety carabiner must return to its rest position automatically after it has been pressed in by hand. The coupling nut must allow an easy opening and closing.

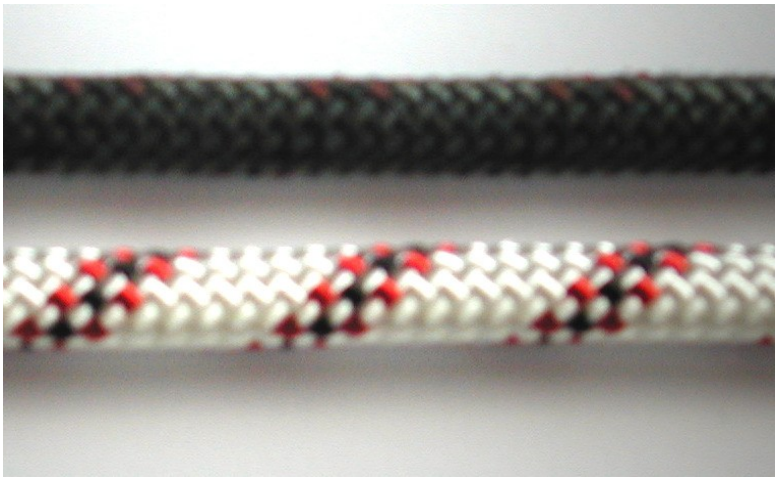
Inspection of the sheathed core rope

Fig.1: fibre breaks

The rope must be visually/manually checked along its entire length for the following wear appearance /defects / damage:
Cuts, fibre breaks
thickening, loops
kinks, knots
rot, burns
severe wear/abrasion
open, loosened termination,
sheath displacement

It is sensible to look for such rope properties (above items) during descending when the rope is sliding through the hand.
The device must be withdrawn from use if it shows one of the aforementioned properties. The rope must be replaced by the manufacturer or a person authorised by the manufacturer.

Fig. 2: Severe rope wear, wear with rope thickening



Note:
The brake dust produced by the braking action is transported out of the housing via the rope (through the rope entry and exit points) due to the open position of the brake unit in the device housing. The material wear on the device housing (aluminium dust) occurring during the use of the device is also transported out of the housing in this manner. This results in a discolouration of the rope (blackening) but does not have a detrimental effect on the rope properties.

Fig.3: Blackening of the rope due to brake dust

Function of the centrifugal force brake

Check the function of the centrifugal force brake by pulling the short end of the abseiling rope (the rope-end which is near to the descender device housing) from the distance of about 1,0m through the descender device ASG 300 Hub.

During this process immediately the resistance of the centrifugal force brake must be sensible.

If the abseiling rope could be pulled through the descender device without any sensible resistance, the Descender Device ASG 300 Hub has to be withdrawn from use and it has to be completely inspected again.

If the descender device locks by pulling the rope through it and the abseiling rope does not run through the device, the Descender Device ASG 300 Hub has to be withdrawn from use and it and it has to be complete inspected again.

Inspection of the the handwheel

The handwheel must have a sit fixed. If you cannot swivel the handwheel, or the handwheel rotate without a resistance, or the handwheel wag, it must be withdarwn from use.

12. Inspection book

An inspection sheet, in the form of an inspection book, which must kept with the equipment, is to be found below.

Produkt : Descender Device ASG 300 Hub	
Manufacturer: RK Sicherheitstechnik GbR **Faunaweg 7, 42119 Wuppertal** **Delivery Adress:** **Dellenfeld 44, 42653 Solingen** **Tel.: 0212 64557-0** **Fax: 0212 64557-15**	**Serial no.** **Fist Seal- Number:**
Owner / User:	**Utilisation period:**
Date of purchase:	**First use:**

Date of inspection	**Typ of inspection (regular inspection or repairs)**	**Results of inspection information deficiencies**	**Stamp/ signature of qualified person**	**Date of next regular inspection**

13. Documentation of the performed descending work

The performed descending work must be entered into the attached list for documentation purposes. A differentiation between descending and hoisting must be made.

Product: Abseiling ASG 300 Hub					
Product serial number:					
Owner / Training facility:					
Date of use	**Result of visual inspection before use**	**Trainer / User**	**Performed descending work in metres and descending load in Kg**	**Performed hoisting work in metres and hoisting load in Kg**	**Trainer's signature**