

Rescue, Hoisting and Abseiling Equipment AG 10 Hoist B EN 341 / EN 1496 CE 0158

Technical data:

Manufacturer:	Christian Dalloz Holding Deutschland GmbH & Co. KG
Type:	AG 10 Hoist
Device class:	A
Serial no. / Yr. of manufacture:/.....
Permitted abseiling height:	400 m max
Permitted abseiling height for 2 persons:	100 m max.
Max. abseiling load:	150 kg
Max. abseiling load for two persons:	220 kg
Abseiling speed:	0,7 m/s
Device weight:	2.5 kg (without rope)
Rope length:
Examination departement:	DMT Technologie Park 1 45307 Essen

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1. Technical data

1.1 Manufacturer:	Christian Dalloz Holding Deutschland GmbH & Co. KG
1.2 Type designation:	Abseiling Rescue Device AG 10 Hoist B
1.3 Serial number:	Consecutive number
1.4 Yr. of manufacture:	Year of manufacture
1.5 Abseiling height:	400 m max. (decisive is the supplied rope length)
1.6 Payload:	150 kg max. for one person 220 kg max. for two persons
1.7 Abseiling speed:	0.7 m/s
1.8 Weight of AG 10 Hoist A:	1.5 kg

2. Scope of equipment

Rescue, lifting and descending equipment, for use as stationary rescue equipment with a maximum usage height of 120 m.

Ser. No.	Quantity	Designation
1	-	AG 10 equipment (complete)
		Individual parts
2	1	AG 10 Hoist B with rope
3	1	Rescue rope, 9 mm, (separate as guide rope, respectively hold-off rope)
4	1	Rope bag for rescue rope
5	1	Rope bag for guide rope
6	1	Anchorage rope, 1.5 m long
7	1	Rope clamp, type SK 12-16 for 16 mm ropes
8	5	LM mountain-climber carabiner
9	1	Pulley
10	1	Edge protection, L-shaped metal plate
11	1	Rope hold-off lever
12	1	Equipment bag for transportation of the complete AG 10 equipment

3. Description

The Abseiling Rescue Device AG 10 Hoist B is used for the rescue of injured persons from high or deep work locations.

The abseiling device AG 10 Hoist B has the following features:

- operation by one person possible.
- centrifugal force controlled abseiling speed.
- descend braking possible at any time.
- hoisting of persons possible (hoisting function)
- securing of the abseiling device with carabiners to a suitable anchor point as per EN 795

The abseiling device AG 10 Hoist B is not a fall arresting system.

The temperature-dependent utilisation range of the abseiling equipment lies between ambient temperatures of -25°C to 60°C.

4. Preparation

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

The AG 10 Hoist B 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.

The rescue rope must be able to freely run in and out at the rope entry and rope exit points of the abseiling device.

The rescue rope must be inserted into the AG 10 Hoist B so that the carabiner on the end of the rope is located on the device side opposite to the aluminium shackle.

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. Alternatives for securing the AG 10 Hoist B

5.1 Securing with the hang-in device

- **Securing to ladders**

The hang-in device is directly hung into the ladder rungs. The clamping jaws are pushed against the ladder rungs, from below, and then secured with the knurled nuts.

A securing in the same way but turned by 180° is also possible.

Note: The AG 10 Hoist B must always be secured with an adjustable securing rope (e.g. the securing rope wrapped around the runner of the guided-type fall arrester; a wrapping around aluminium rungs is not permissible).

- **Securing on platform with H-beam**

The hang-in device is placed horizontally on the H-beam with the clamping jaws pointing in the direction of the platform edge above the casualty. The clamping jaws are then pushed against the flange secured with the knurled nuts. The AG 10 Hoist B must be additionally secured with the securing rope (e.g. securing rope wrapped around the H-beam).

5.2 Securing without the hang-in device

It is also possible to anchor the AG 10 Hoist B without the hang-in device. This is done by wrapping the securing rope around a structural element with a sufficient load-bearing capacity and pulling the securing rope tight with a rope shortener. A further alternative for securing is possible by hooking the carabiner of the securing rope onto an anchorage point.

6. Rescue of casualties

6.1 Hoisting function

After the AG 10 Hoist B has been secured above the casualty – who has been secured by way of, for example, a lanyard as per EN 354 – as described (with or without the hang-in device), 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 locking 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.

The handle is retracted from the handwheel and the handwheel is then rotated 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 hand crank in order to prevent an unintentional descend.

6.2 Abseiling function

Fold the handle back into the handwheel.

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 abseiling speed is controlled automatically by a centrifugal force brake. It is also possible to brake the abseiling process by holding the rope slipping through 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.

7. Alternatives for recovering the rescuer

7.1 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.

7.2 Recovering the rescuer after the rescue process in the case of sufficient rope reserve

After completion of the rescue process and after the rope clamp SK 12-16 has been secured to the rescue rope, the rescuer can hook and secure himself to the carabiner located on the rope clamp.

The abseiling is made possible by the sufficient rope reserve - the minimum length of this reserve being equal to the required abseiling height.

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

7.3 Recovering the rescuer after the rescue process in the case of insufficient rope reserve

After completion of the rescue operation, the AG 10 Hoist B 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 AG 10 Hoist B is hooked into the chest eye of the full-body harness so that the person can descend by way of the abseiling rescue device.

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

8. Rescue examples

8.1 Rescue on guided-type fall arrester (ladder)

- **AG 10 Hoist B above the casualty**

The rescuer climbs, with the AG 10 Hoist B, to the casualty. The rope bag with the rope supply remains at the foot of the ladder.

The AG 10 Hoist B is hung into the ladder rungs with the aid of the hang-in device (as already described) at a point above the casualty. The clamping jaws are pushed against the ladder rungs, from below, and secured with the knurled nuts.

The AG 10 Hoist B must be additionally secured by wrapping the securing rope around the runner of the guided-type fall arrester.

The carabiner of the rescue rope is hooked into the back eye on the casualty's full body harness. The loose end of the rescue rope is inserted into the open eyebolt and into the cleat on the hoist.

After the handle has been folded out of the handwheel, the casualty is pulled up by turning in the 'Auf' (=UP) direction to a point where he can be either lifted onto a safe standing platform or released from the securing lanyard.

During the turning of the handwheel, the rope in the cleat must be kept taut in order to prevent an unwanted descending.

In the case of a release of the casualty's securing lanyard (for a descending), the casualty is lowered by taking the rescue rope out of the cleat. The loose end of the rescue rope must be controlled during the descending by allowing it to slip through the hand.

The handle must be folded into the handwheel again before the descending.

8.2 Platform rescue on concrete towers

- **Abseiling**

The hang-in device is placed horizontally on the H-beam with the clamping jaws pointing in the direction of the platform edge above the casualty. The clamping jaws are then pushed against the flange and secured with the knurled nuts. The AG 10 Hoist B must be additionally secured with the securing rope (e.g. securing rope wrapped around the H-beam).

The rope hold-off lever is secured against falling with the carabiner. The taut safety rope of the casualty is then pressed away from the vertical concrete face with the rope hold-off lever.

The rope clamp SK 12-16 and the hold-off rope are hooked into the carabiner of the rescue rope and the hold-off rope is lowered to the foot of the tower.

The rope clamp SK 12-16 is attached to the casualty's safety rope (observe 'oben' (=Up) arrow direction) and then pushed as near as possible to the casualty with the rope hold-off lever.

The edge protection (L-shaped metal plate) is placed on the concrete edge adjacent to the casualty's safety rope. The edge protection must be secured in order to prevent it falling. The rescue rope is then routed over the edge protection.

The casualty must be raised with the hoisting function of the AG 10 Hoist B in order to release the casualty's safety rope from the anchorage point.

For this step, the loose end of the rescue rope must be diverted by inserting it into the rope diverting point so that it can be clamped in the cleat of the hoist. The handle is then folded out of the handwheel and the casualty raised, by turning in the 'Auf' (=Up) direction, to a point where a release of the securing lanyard is possible. During this stage of the rescue, the loose end of the rescue rope must be secured in the cleat by keeping it taut in order to prevent an unwanted descending when the handle is released.

During the subsequent descending, the casualty must be pulled away from the tower shaft by the 2nd rescuer with the aid of the hold-off rope.

Before the descending, the handle on the handwheel must be folded in again and the rope end secured in the cleat removed from the cleat. The released rope must be controlled during the descending by allowing it to slide smoothly through the hand.

- **Ascending**

In certain circumstances (e.g. lift available at several platforms, strong wind, etc.), a lifting of the casualty can be more advantageous than a rescue by abseiling. For a rescue of the casualty by lifting, the AG 10 Hoist B must be secured at the platform above the casualty.

The hang-in device is placed horizontally on the H-beam with the clamping jaws pointing in the direction of the platform edge above the casualty. The clamping jaws are then pushed against the flange and secured with the knurled nuts. The AG 10 Hoist B must be additionally secured with the securing rope (e.g. securing rope wrapped around the H-beam).

The edge protection (L-shaped metal plate) must be secured with the carabiner in order to prevent it falling and placed on the concrete edge exactly vertically above the casualty.

The rope clamp SK 12-16 is secured to the carabiner of the rescue rope. The rescue rope is then routed over the edge protection and then lowered to the 2nd rescuer on the next lower platform.

The 2nd rescuer secures the rope hold-off lever to prevent it from falling.

The taut safety rope of the casualty is then pressed away from the vertical concrete face with the rope hold-off lever.

The rope clamp SK 12-16 is attached to the casualty's safety rope (observe 'oben' (=Up) arrow direction) and then pushed as near as possible to the casualty with the rope hold-off lever.

The 1st rescuer (at the AG 10 Hoist B) inserts the loose end of the rescue rope into the rope diverting point and into the cleat of the hoist.

The handle is then folded out of the handwheel and the casualty raised, by turning in the 'Auf' (=Up) direction, to a point where a release of the securing lanyard is possible. During this stage of the rescue, the loose end of the rescue rope must be secured in the cleat by keeping it taut in order to prevent an unwanted descending when the handle is released.

The casualty is pressed away from the platform edge by the 1st rescuer during the lifting. The casualty is lifted to a point where he can be pulled onto the platform by the 2nd rescuer.

9. 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.

10. Cleaning

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

11. 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.

A utilisation period of 6 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.

12. Inspection

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)!

Inspection of devices used at training facilities

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 ¹ , 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 115 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

¹ 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.

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.

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 ⇒ inspection change w/out inspect. 7.5 m hoisting change w/out inspect. 10 m descending



CORRECT !!

990 m descend. work inspection change **after** inspect. 7.5 m hoisting change **after** inspect. 10 m descending ⇒



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

13. Illustration of the AG 10 Hoist B



