

RESQ

BY CRESTO

EN

SV

NO

DA

FI

DE

IT

FR

ET

英国

PL

ES

TR

PT

CZ

NL

INSTRUCTIONS
FOR USE & INSPECTION CARD
FOR RESCUE EQUIPMENT

RESQ RED PRO

RESQ RED PRO Mki

**INSTRUCTIONS FOR USE & INSPECTION CARD
FOR RESCUE EQUIPMENT**

CRESTO, UK master version of the operating instructions and control card for the rescue equipment RED Pro

MK I

Section	Contents	Page
1.	Safety instructions	2
2.	Technical data	4
3.	Use	5
4.	Control	7
5.	Operation	8
6.	Instruction for shift and hoist	12
7.	Accessories	14
8.	Storage, inspection and cleaning	14
9.	Line durability/lifetime	15
10.	Expert inspection	15
11.	Control card	16

1. SAFETY INSTRUCTIONS

These operating instructions are the manufacturer's (CRESTO) basic instructions for the correct use and inspection of the RED Pro Mk I. This emergency rescue device is only intended to be used for limited emergency hoisting (one person) and/or emergency evacuation from elevated incident areas (max. two persons), where other means of escape is insufficient. **All technical limitations of the device are listed in section 2, Technical data!**

Equipment use must be in accordance with legal requirements and the manufacturer's specified training

- 1.1 The equipment is solely dimensioned for rescue and evacuation only in accordance with the equipment's technical data (section 2) and the manufacturer's (CRESTO) instructions cf. relevant technical standards. Special attention must be made to section 2: instructions regarding maximum safe work load (SWL).
- 1.2 All other forms of use, e.g. hoisting/descending goods, are prohibited and illegal and will terminate all liable and legal obligations between the user and the manufacturer.
- 1.3 Service, inspection, repair and training must be carried out in accordance with the producers guidelines, by certified competent persons.
- 1.4 Section 1.3 concerns the standards' requirements that the named actions and measures may only be carried out by the manufacturer's (CRESTO) personnel who are documented as competent, or subcontractor personnel who are documented by the manufacturer as competent.
- 1.5 In accordance with the applicable working environment rules and standards, the safe and responsible use of the equipment requires suitable training, cf.
- 1.6 Equipment users must be in good health and good physical condition. In case of known disorders, the user must be informed by his or her own doctor of possible consequences, as conditions such as cardiovascular conditions, diabetes, blood pressure deviations, epilepsy, and balance problems, etc., can be hazardous to safety when using the equipment.
- 1.7 Equipment use must be supported by the company's own accident emergency procedures related to daily work.
- 1.8 If the product is exported, the dealer shall supply the translation of this user, maintenance and inspection instruction into the official language of the country where the product is to be used.

Discrepancy

RED PRO may be used for teaching/training. Such use exerts higher loads on the equipment, than normal emergency use would. The producer does not recommend the use of emergency devices for training use. This is due to the fact that the technical specification in production is optimised to emergency use only.

Manufacturer and expert:

CRESTO AB

Lägatan 3

SE-302 60, Halmstad, Sweden

Tel.: +46 (0) 35 710 75 00

2. TECHNICAL DATA

NOTE: Essential data from the following certification specifications is displayed on every - vice ID sticker, on its front cover with references to the supplier, certification and limitation in use, as well as traceability, shown on the bottom picture page 8. This sticker must remain readable and if not it must be changed.

Manufacturer:	CRESTO AB, Sweden
Product:	Emergency descender device with hoisting function
Type:	RED Pro Mk I
Line:	Alpine sheathed core rope Ø 9 mm and Ø 10.5 mm EN 1891:1998 Weight: 61g/m (Ø 9mm) / 71,5 g/m (Ø 10.5 MM) Elongation: 4,2 % (Ø 9 mm) / 3 % (Ø 10.5 mm) Material: Polyamide/ Polyamide
Certification:	In accordance to PPE Regulation (EU) 2016/425 And EN 341:2011/A (100 kg) / 1B (200 kg) EN 1496:2017 Class B
Compliance:	CAN/CSA Z259.2.3-12, type 1A (100 kg), type 1B (200 kg) ANSI/ASSE Z359.4-2013
Max. descend height: Max.	160 m
descend load: Min.	200 kg
descend load: Max.	50 kg
ambient temperature: Min.	+ 60 °C
ambient temperature: Max.	- 40 °C
lifting capacity: Max.	136 kg
hoisting height:	12 m
Producer tested loads: Max.	48 x 160 m with max. load 100 kg
height/load descending: Max.	5 x 160 m with max. load 200 kg
height/load descending:	0,8 m/s at loads up to 100 kg. Increasing speed is to be expected as load is increased to max. 200 kg (max. 2 m/sec.)
Descent velocity:	
Calculation of descend energy:	$W = m \times g \times h \times n$ m = descend load (kg), g = acc. of free fall (9,81 m/s ²) h = descend height (m), n = number of descents Class A W = 7,5 x 10 ⁶ J / Class B W = 1,5 x 10 ⁶ J

3 USE

The lowering speed of approx. 0.8 m/s, depending on load, supports a safe descent. The equipment should be accessible as “unit equipment” at relevant locations or brought on site as “mobile equipment” for fitters, etc

In cases where twin lowering is needed, weights of different evacuees should be combined in ways to minimise the combined max. Load as much as possible.

If necessary, the equipment may also be used to lift/hoist people in emergency situations before they can be freed from the actual structure.

The equipment must only be used for rescue and evacuation and not as fall arrest equipment or as a utility “crane”.

The equipment may only be connected with approved PPE components cf. EN, ANSI or CSA. This must always be in accordance with the individual national regulations and local requirements.

NOTE

If the process of combining PPE equipment, accessories (e.g. karabiner hooks) and rescue equipment into different rescue and/or evacuation solutions, it is most important to observe fully functional and safe solutions in the use of different approved components, as recommended by the producer, during mandatory training and/or repetition.

Failing to execute the use of the rescue equipment as recommended, may compromise safety and endanger both users as well as evacuees.

The equipment is packed in sealed boxes (with/without vacuum packing) and is ready for immediate use, provided the users are certified to use the equipment by an authorised CRESTO instructor.



1. RESQ RED Pro MK I UNIT/ 1 PCS SLING

- 2. Line with hooking karabiner
- 3. Line bag

Following equipment is optional

- 4. SKV box with labelling and sealing bags and basic user guide
- 5. Karabiner with pulley
- 6. Line protecting edge iron
- 7. Karabiner with "fis hook" (Modified rope clamp for emergency connection to released fall arrester)
- 8. Slings

4. CONTROL

Visually and mechanically check the equipment's functions before use.

Check the following details visually:

- Check the line along its entire length. It must not show chafing or varying thickness (10 mm). It must not show signs of major stress, such as frayed cuts, change of shape, stiffness or other deformation with permanent kinks.
- The equipment and karabiner must be in their original state. No cracks, deformations, significant wear marks or limited functions.

Check the following details mechanically:

- Pull the line through the device – three metres in each direction finishing off with the "rescue" line's karabiner approx. 30 cm from the device (NOTE that the brake force must increase with increased pulling power on the line).
- All moving/locking parts must show perfect function.

When used, the equipment must always be inspected by a CRESTO certified individual. Faulty equipment, lines or components must never be reused. If the equipment is found to be faulty during inspection, the component(s) must immediately be returned to a CRESTO certified individual for further inspection. The inspection must be performed by a certified expert with a minimum competence of a certified competent person

The equipment must be inspected and checked at least once every 12 months. The inspection must be carried out by the manufacturer or an individual approved by the manufacturer to carry out inspections and repairs.

NOTE: Several countries require inspection at 6-month intervals.

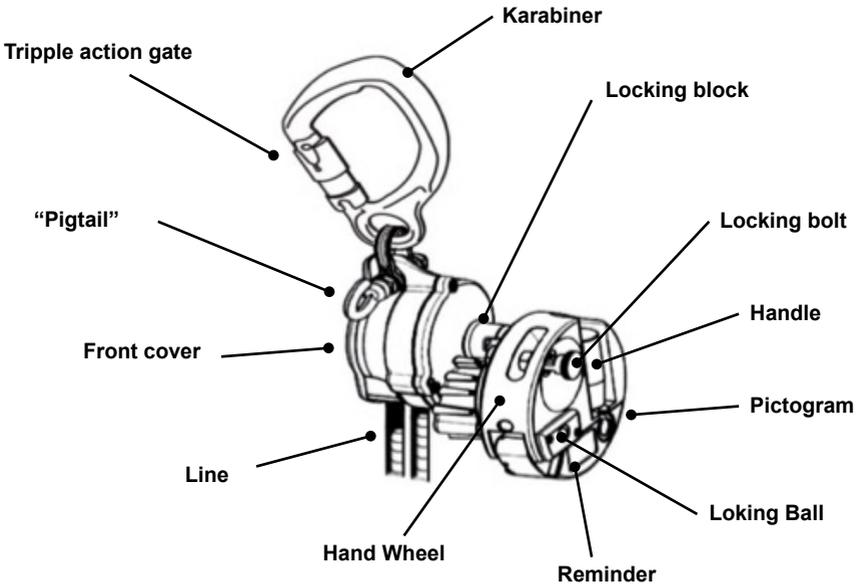
WARNING! Alteration or replacement of any of the equipment's components outside the scope of equipment certification and this guide is strictly prohibited

5. OPERATION

Handling the device in the event of evacuation

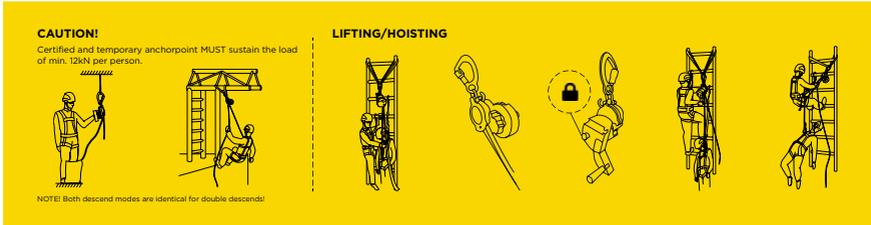
NB: RED Pro Mk I must only be used by trained individuals who have been sufficiently instructed in the use of the equipment.

NB: Safe and responsible use of the equipment also requires individuals to undergo sufficient re-training in accordance with the applicable working environment legislation, as evacuation and rescue work during emergencies is extremely demanding.



WARNING: REMEMBER the hand wheel MUST be folded away before any lowering!

Supporting the use of the device, once the manual have been read and understood and post sufficient training, you will find the following pictogram (Fig 1 and 2) together with the individual ID sticker on all devices.



The yellow sticker is situated on the edge of the hand wheel as shown (Fig 2) on the rendering on page 9. and the pic. below. This sticker is identical to the one situated on the lid of the red box. On the side of the hand wheel you will find the red reminder on reading and understanding the manual.



Fig 2

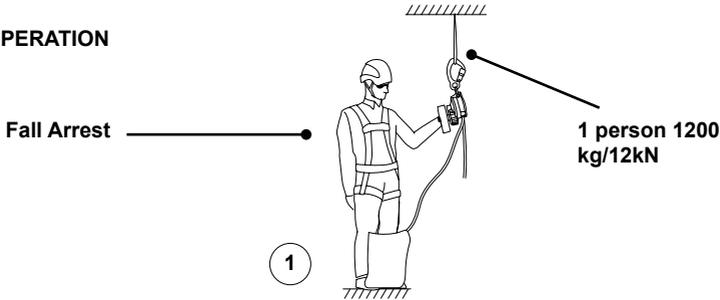
First rendering, pic. 1 and 2 is a short reminder of how to connect at a safe anchor point sustaining a load of min. 12 kN and how to exit, during evacuation, as taught in training and supported by this manual.

Second rendering, pic. 1, 2, 3 and 4 is a similar short reminder on how to execute a "ladder rescue" in the right sequence. Step 1: Mount the device and connect to the casualty. Step 2: block and open the hand wheel. Step 3: Disconnect the blocking pin and initiate the hoist. Step 4: Fold the hand wheel and execute the descend, as taught in training and supported by this manual.

On the front cover shown underneath and on page 7 you will find the mandatory ID sticker with references to the supplier, certification and limitations in use, and traceability .



5. OPERATION



1. Secure the equipment on a hooking on point that can withstand a load of 1200 kg (12 kN), cf. EN 795, at least one meter above the lowering point (allocated). Check that the intended lowering path is free of any obstacles that may obstruct free movement during lowering.

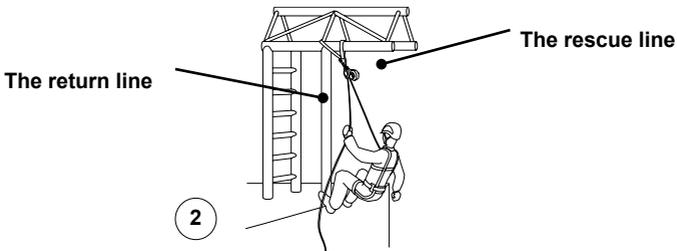
Throw the line bag down to the final lowering point if this is appropriate and can be done responsibly. Alternatively, the bag can travel with the first evacuee or be left at the exit level*.

NB: *The last evacuee MUST descend with the person-fitted equipment (and carryin the line bag, if this has not been thrown down).

WARNING!

During the execution of point 1, the person must always be wearing fall arrest equipment connected to a safe anchor point.

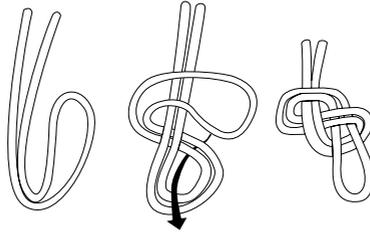
2. The line is equipped with hooking karabiners at both ends. The line from the unit to the user is called the "Rescue Line". The opposite part of the line is called the "Return Line".



Fix the rescue line to the harness chest or the back tackle hooking point (see harness instructions). Now pull down on the return line to fully tighten the line between the unit and the user. Bend your knees until the harness/line takes all the weight. Carefully swing free of the structure and ease the grip on the return line to begin lowering.

NOTE: During descend always keep control/grip at the return line for full control during descend, as it might be impossible to regain control, if lost. Observe, that the body of the device accumulates heat from the centrifugal brake during descend, and may be HOT enough to damage the rope if not administered correctly! Always use heavy duty working gloves.

3. Once the first person/persons are down and disconnected from the line, the next persons may hook onto the return line (which subsequently becomes the rescue line) using an 8 knot or the line end's karabiner, depending on line length and lowering height.



WARNING! The lowering process described with continuous lowering of several evacuees one after the other is called “shuttling”. As shuttling alternates between the function/name of the rescue line and the return line, it is essential for the evacuees’ safety that the 8 knot is **ALWAYS** placed correctly to ensure that everyone descends all the way down. The procedure is integrated into the basic training.

Remember to comply with the maximum lowering lengths stated in the “Inspection” section (see section 4)!

STAY CALM

When a person steps off the structure he or she must always be facing the structure.

Lowering a person in distress and colleague (rescuer) at the same time

The rescuer may be lowered together with a person in distress. The rescuer and evacuee **MUST** be independently hooked to the same karabiner.

WARNING! In case of a double lowering, the following rules must always be observed:

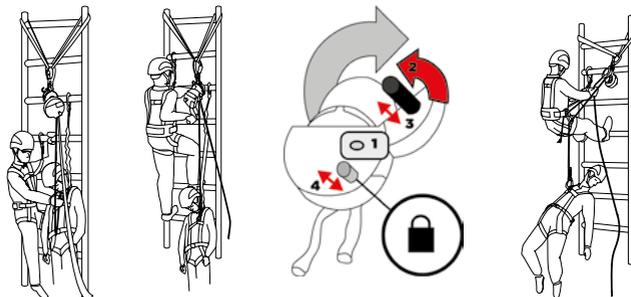
- There must be strict vigilance to prevent the line from touching or coming close to any sharp edges (chafing)
- CRESTO recommends lowering in top mounted equipment, provided that other assistance is placed next to the equipment. If this is not the case, lowering **MUST** be done with person-fitted equipment

6. INSTRUCTIONS FOR SHIFT AND HOIST

1. Place the line bag min. 1 m above the person in distress (or above). Take the equipment out of the bag and be extremely careful not to lose any accessories. Secure the equipment to an anchor point at least one metre above the person. The anchor point must have an anchor value of at least 1200 kg (12 kN), cf. EN 795 for single descents.

Remember – the rescuer must be secured by fall arrest equipment!

2. Fix the rescue line karabiner onto the harness of the evacuee or onto the equipment's "fishhook" depending on the situation (see section about accessories)



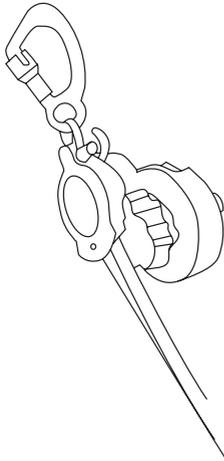
3. Pull the return line through the device until it is fully tightened between the evacuee and the device. After opening the hand wheel and rotating it clockwise as shown, it is now possible to lift up to a level where the evacuee's fall arrest can be disconnected.
4. Pass the return line over the pigtail in preparation for lowering and fold the hand wheel together by first activating the glossy ball lock (1), so that the "half-moon part" close (2). Now pull the handle (3) in perpendicularly and place it in the hand wheel's groove. Turn the hand wheel a 1/4 turn away from the locking block to take the weight off the locking pin (4), so that this can be pulled out perpendicularly and turned a 1/4 of a turn to remove the hand wheel block.
5. When descending the evacuee, the friction break will limit the speed to approx. 0.8 m/sec. (load depending). Additional brake force can be provided by using the pigtail.

The rescuer can control the lowering speed with a secure grip on the return line. When he or she eases their grip, the descent starts; when tightening the grip on the line, lowering stops.* NOTE: It is important to the safety of the evacuee that the rescuer remains in visual contact. This can be executed by a backup, if safe means of communication is at hand.

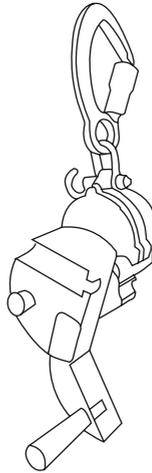
***This technique must be used when rescuing people in areas where the lowering space is limited. When doing this the rescuer/user must always wear heavy duty gloves).**

The equipment regulates the lowering speed to approx. 1,6 m/s. depending of the load. However, with increasing loads, an increase in the speed must be expected.

Descent mode



Hoist mode



NB: Line slippage during the hoisting procedure.

REASON:

The line was not drawn all the way to the bottom of the line reel during the preliminary hoist. With the rotation of the reel, the line has been forced outwards because of the combination of load and too little point pressure, after which the line slips prevent any hoist action.

REMEDY:

Pull hard up or down on the return line (top or person fitted to equipment) to force it into the bottom of the reel. Rotate the hand wheel at least once with full tension and keep an eye on the line's woven marking, which will clearly show if the equipment is being hoisted. If not, e.g. due to heavy load/wet line, an assisting foot loop on the return line can be made. By putting a foot into the loop it is possible to hoist with assisting tension on the return line.

7. ACCESSORIES

On page 4 the accessories numbered are shown in the picture of the equipment's SKV box (Emergency Response Box) and numbered 5, 6, 7 and 8.

5. One karabiner with pulley (mini snatch block) for angled line movement in e.g. interior nacelle rescues.
6. One edge iron to protect the line from chafing when moving over the edge. e.g. on the roof of the nacelle.
7. One "fishhook" with karabiner for lifting persons post falling in fall arrester. The fishhook is used to connect the rescue equipment and the fallen person's triggered fall arrester. (Use of the fishhook is referred to on page 26 of the basic course compendium.)
8. Three "slings" for suspending equipment or as an improvised grip when rescuing. (NB: the total number of slings may vary in relation to the ordered configuration.)

NB: The use of accessories with the rescue equipment is an integral part of the equipment and must be utilized as recommended by the producer, and as relayed during training.

8. STORAGE, INSPECTION AND CLEANING

The rescue equipment is emergency equipment and must be inspected each time it is unpacked and used, before it is repacked and sealed in a transport and storage box. Inspection and packing must be carried out by a CRESTO certified competent person

If the equipment is wet, all metal parts must be dried with a cloth. The equipment must then be hung out to drip dry at room temperature out of direct sunlight (no UV effects). Never hang the equipment in a warm cupboard, boiler room or similar place. Drying in sunlight is NOT PERMITTED!

All rescue and fall arrest equipment will have a long service life if it is kept clean, stored in a dry place and kept away from sunlight. The equipment must not come into contact with oil, chemicals or aggressive substances.

9. LINE DURABILITY/SERVICE LIFE

Depending on type, the supplied line has a maximum service life of **4 to 6 years**. The line's service life strongly depends on where and how the line is used and stored and must therefore be assessed on each occasion by an expert.

Unused line that has been stored in vacuum packing has a guaranteed life of 10 years.

Inspection and any replacement of the device's lines must be carried out by an expert and must be documented using the supplied control card, which must always be kept with the **RED Pro Mk I** rescue and evacuation device. The date for the next expert inspection must be clearly visible on the control card and the device and box inspection labels.

10. EXPERT INSPECTION

Inspection and service of the equipment must be carried out by an expert at least once every 12 months, and the manufacturer's instructions. NOTE: Be advised that some countries require mandatory inspection every 6 months.

These regular periodic examinations must ensure the safety of users as continued efficiency and durability of the equipment depends on this continued procedure.

NB: Training equipment must be inspected by an expert after every training session.

Inspection and any replacement of the line must be carried out by an expert and must be documented using the supplied control card, which must always be kept with the equipment.

EU Type-examination by:

DEKRA Testing and Certification GmbH,
Dinnendahlstr. 9
44809 Bochum, Germany

 0158

Production Control by:

Notified Body: 0158
DEKRA Testing and Certification

Download your User instruction and Declaration of conformity on <http://www.cresto.com/documentation>

SUSTAINABILITY & RECYCLING

We design and manufacture premium products, with premium materials, to be used actively and last long.

When the product is decided to be taken out of use, or its maximum lifetime has expired, it should be recycled according to local legislations. Our products are made of polyester, polyamid or PVC and metal/aluminium components. If necessary dismantle the metal components before recycling. You can also send the complete product to Cresto and we will take care of the recycling in order to reduce our impact on the environment.

11. Control card

This control card must be kept with a copy with the device. The card must be shown if requested by your immediate superior, SIO member, CRESTO auditor or public inspection authorities. The certified inspector must record dates and important events and sign the book every time the equipment is inspected (at least once a year). Training equipment must be accompanied by its own special control card.

Date/year of first use: Date/year of purchase:

User:

Supplier: CRESTO AB, Lägatan 3, SE-302 60 Phone +46 (0)35 710 75 00		
Type: RED PRO MK I	Line length:	Metre(s):
Serial number:		Month/year of manufacture:
Slings:		
Fishhook:		
Reel:		

DATE	EVENTS	SIGNATURE AN OFFICIAL STAMP	NEXT INSPECTION

Comments:



CRESTO AB | LÄGATAN 3 | SE-302 63 HALMSTAD | SWEDEN | TEL: +46 (0) 35 710 75 00
SUPPORT@CRESTO.SE | WWW.CRESTO.SE