

# V-PROTECT

User Manual

# V-PROTECT

## Leg pads to protect against suspension trauma

Technical changes reserved

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### BRIEF DESCRIPTION

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#### INTENDED USE

In combination with a full body harness (EN 361 or similar), a sit harness (EN 813 or similar) or a chest-sit harness combination (EN 12277 or similar), the V-PROTECT padding reduces the 'strangulation' effect (blood circulation problem) in the veins and therefore reduces the risk of a suspension trauma when hanging freely in the harness. Free suspension in the harness can occur during rope-supported work or after arresting a person who has fallen.

During free suspension, the obstructed blood circulation can lead to a suspension trauma; in the worst case this can be fatal, unless the casualty is rescued within a certain time (depending on circumstances, around 30 minutes)!

This situation is particularly critical if the casualty in the harness is unconscious. In an optimum position, the protective V-PROTECT padding (pending a global patent) relieves the pressure on the veins and therefore prevents obstruction of the blood circulation. This significantly prolongs the amount of time that the casualty can remain in the arresting system; this is an essential time gain during rescue operations.

The precise time gain depends on various factors: correct positioning of the V-PROTECT, harness settings, the harness geometry, clothing, physical and mental state etc. It can be assumed that the suspension time can be prolonged by about 100 %.

#### CAUTION:

Wrongly worn V-PROTECT can cancel out  protective effect. It should only be used by trained personnel.

**All other uses are deemed improper. The company BORNACK will not be liable for any ensuing damages. The user bears the sole risk.**

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## BRIEF DESCRIPTION

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### EQUIPMENT

- Special wedge-shaped padding with a defined hardness level and defined gap to prevent compression of the vein area.
- Padding is made of special foam with closed pores to prevent moisture absorption.
- Contact surfaces are skin-friendly
- Baseplate to ensure the required space between the two padding moulds.
- Velcro fasteners for attachment to the leg straps of the harness system (full body harness) for possible replacement of the V-PROTECT.
- 1 V-PROTECT set (per person) comprises 2 double pads (right/left).

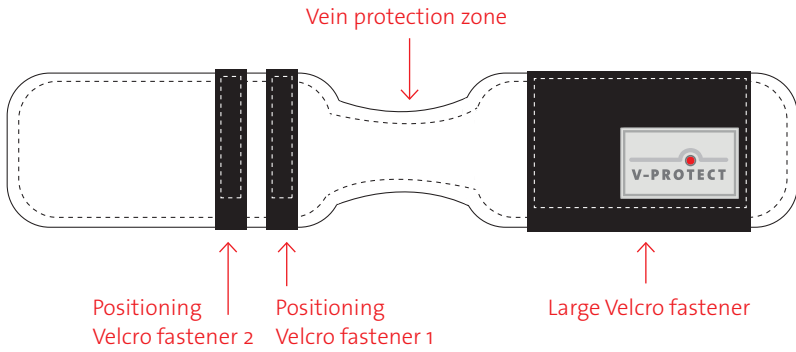
### APPLICATION

Protects against suspension trauma when freely suspended in a harness system.

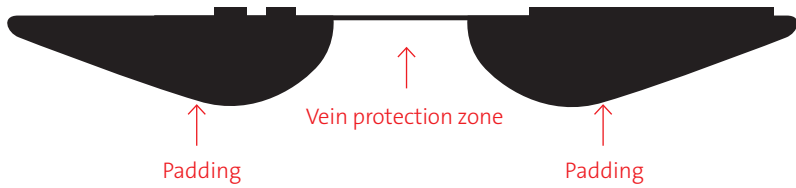
### USE

- Permanently attached to the harness system (full body harness or similar).
- Free suspension after arresting a fall.
- Free suspension for rope-supported work.

**V-PROTECT FRONT**



**V-PROTECT SIDE**



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## INFORMATION BEFORE USE

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### Test every time before use!

If even the slightest of faults is detected during the inspection, the device may not be used!

### VISUAL INSPECTION

- Padding is complete. (Right/left on the leg straps of the harness system/one double pad per leg strap)
- Padding is not damaged or deformed and sits tightly on the baseplate.
- Padding height, clearance between the padding sections corresponds to new state.
- Velcro fasteners are complete and functional.
- Space between the padding section is guaranteed!
- V-PROTECT is correctly positioned on the leg straps (no pressure on the veins.)
- V-PROTECT is securely affixed to the leg straps; the straps cannot slip from the padding.

### FUNCTION TEST

- Velcro fasteners hold their position and are not soiled or worn.
- After putting on the harness systems, the V-PROTECT padding must keep the area around the veins free. Carry out a suspension test if necessary.

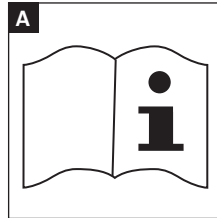
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## V-PROTECT IN USE

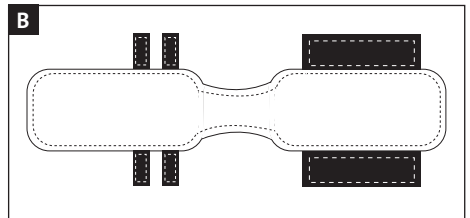
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### ASSEMBLY OF V-PROTECT

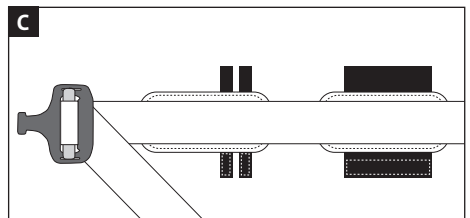
**A** Put the full body harness on like a jacket: arms through the shoulder straps, close the chest strap. The open leg loops hang freely downwards. Observe the user manual for the harness!



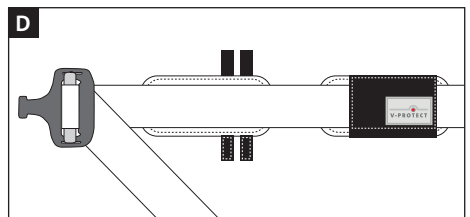
**B** Open the Velcro fasteners on the V-PROTECT padding.



**C** Place the padding below the leg strap, ensuring that the ends of the padding are placed in the direction of the groin with the large Velcro fastener.




**D** Close the Velcro fastener.




## V-PROTECT IN USE

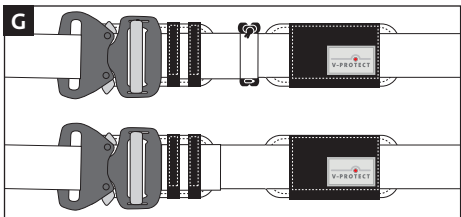
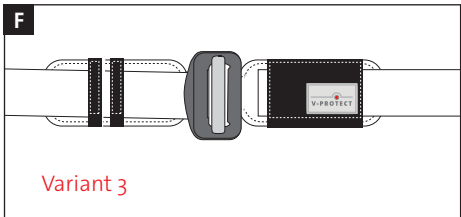
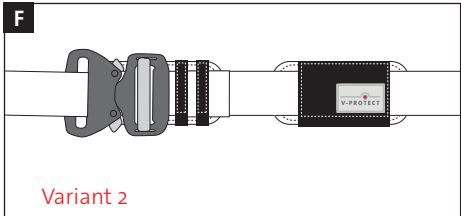
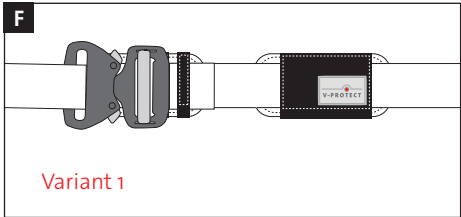
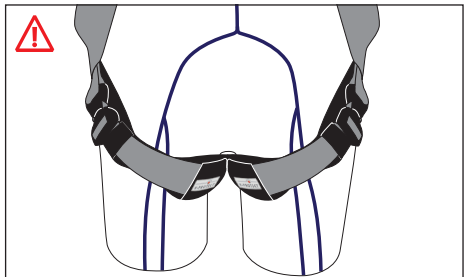
**E** Close the positioning Velcro fastener depending on the harness type e.g. STRIPE, below the fastener above the leg loop and the end of the harness strap.

**CAUTION:**  The position assumed via the positioning Velcro fastener may vary depending on the harness.

**F** To adjust the positioning straps of the V-PROTECT to your personal size or harness model, use either positioning Velcro fastener 1 or 2.

**G** If necessary, affix the ends of the straps in the elastic straps / strap end pouch between the paddings.

**CAUTION:**  The V-PROTECT must be positioned so that the vein protection zone (gaps between the paddings) lies in the vein area. The leg straps are not twisted. (V-PROTECT lies on the thigh.)



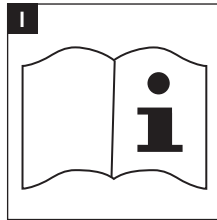
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## V-PROTECT IN USE

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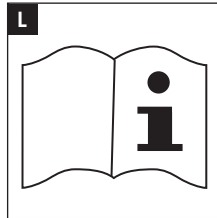
### SETTING THE LEG STRAPS WITH THE OPENABLE FASTENERS


- H** The V-PROTECT is affixed tightly to the harness (above the leg fasteners).
- I** Click both parts of the fastener together. Observe the user manual of the harness!
- J** Tighten the leg straps in the fastener.
- K** If necessary, affix the ends of the straps in the elastic straps/strap end pouch between the paddings.

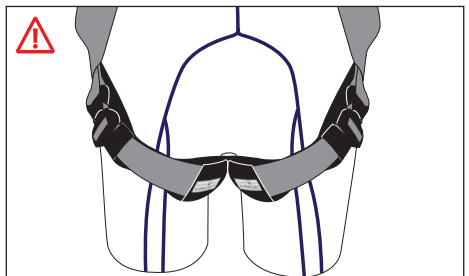


### LEG STRAPS WITH ADJUSTABLE BUCKLES

- L** Put on the full body harness by placing the legs into the leg loops (leg straps opened to the maximum). Observe the user manual of the harness!
- M** The leg straps are already permanently inserted into the V-PROTECT padding. The V-PROTECT is affixed tightly to the harness (above the leg fasteners).
- N** Tighten the leg straps in the adjuster buckle.
- O** If necessary, affix the ends of the straps in the elastic straps/strap end pouch between the paddings.



**CAUTION:**  The V-PROTECT must be positioned so that the vein protection zone (gaps between the paddings) lies in the vein area. The leg straps are not twisted. (V-PROTECT lies on the thigh.)





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## SAFETY INSTRUCTIONS

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### **There is a risk to life if these safety instructions are not observed!**

- If you have any problems with this equipment, please contact the BORNACK-hotline for advice: [hotline@bornack.de](mailto:hotline@bornack.de)
- If even the slightest of faults is detected during the inspection, the device may not be used.
- Damaged, fall-stressed, dubious personal protective equipment or safety devices must be immediately withdrawn and not used. The equipment may only be inspected by an expert or the manufacturer.
- No independent changes or repairs may be carried out.
- This rope protection equipment is part of the personal protective equipment and should be assigned to a specific person/team/machine.
- The personal protective equipment may only be used by qualified staff that are familiar with the material. They must be proficient in handling the personal protective equipment and must have been briefed about the possible risks associated with its use. In accordance with the accident prevention guidelines (UVV), the users of fall protective equipment (Category III) must attend a theoretical training course and a practical training course. Make use of the training competence of the BORNACK training centres. [hotline@bornack.de](mailto:hotline@bornack.de)
- Accessories from other manufacturers may only be used if approved by BORNACK and may not impair the function and safety of the protective equipment.
- Clothing and shoes must be suitable for the task at hand and the weather conditions.
- Adjust the full body harness to your personal dimensions (take clothing into account).
- Only use if you are fully fit.
- Protect the protective equipment and safety devices during use, transport and storage from the effects of heat (e.g. welding flames and sparks), chemicals (acids, lyes) and mechanical effects (loads, wear, sharp edges etc.).
- Before starting work, the responsible person must draw up a plan of rescue measures that defines how to rescue casualties quickly and safely and ensures first aid measures. BORNACK can help you draw up tailor-made rescue plans in specific training courses!
- The national/local safety guidelines and the accident prevention guidelines for the specific industry (UVV) must be observed (e.g. in Germany, the guidelines issued by the professional associations BGR 198 and BGR 199)

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## OTHER

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### APPROVAL

No special approval required.

It is possible to arrange for the certified testing body of the harness system to carry out a compatibility test with the harness system used.

Quality assurance system according to ISO 9001:2012 by the manufacturer.

### MAINTENANCE

- Apply oil to keep moving parts and joints of karabiners, securing devices and anchor equipment smooth running.
- If necessary, oil joints with (resin-free) sewing machine oil.
- Protective equipment that is well looked after will last longer!
- This rope protection equipment does not need any special maintenance.
- Retractable type fall arresters are subject to special maintenance and inspection regulations (see separate user manual). Due to the fact that these devices need to be opened and readjusted, this work needs to be carried out in a workshop authorised by the manufacturer of the equipment.

### CLEANING

- Dry damp rope protection equipment in the air, not on artificial heat sources. Dry metal components with cloths. Dry or wet brush soiled textile components (e.g. arrester harnesses and ropes) or clean with lukewarm water and a little detergent for delicates, rinse with clean water
- No other cleaning agents may be used!
- Clean any metal parts with slight surface corrosion any rub with a greased cloth.

### LIFE SPAN

- The life span of the V-PROTECT protective padding is unlimited as such.
- The life span is limited by damage caused during e.g. wear or use or storage.
- Any changes as a result of standards or regulation must be observed and may lead to the withdrawal of the equipment.
- Textile components are subject to aging (brittleness). This may be exaggerated by the effect of temperature, chemicals and wear caused by storage or use!
- Observe the life span of the full body harness (see separate user manual).
- Rope protection equipment must be inspected at east once a year by an expert and the results of the inspection must be entered into the test card.

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## OTHER

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### **STORAGE**

- Dry damp rope protection equipment before storing
- Store away from light in a dry place.
- Do not store rope protection equipment close to radiators. Permanent temperatures of over +50 °C have a negative impact on the strength of the textile material and will reduce the life span.
- Do not allow rope protection equipment to come into contact with aggressive substances (e.g. oils, grease, acids, chemicals).
- Store in the device case or device bag.
- The rope protection equipment is primarily made of corrosion-resistant materials (stainless steel 1.4301, aluminium). However, take steps to protect the equipment from corrosive influences, e.g. seawater atmospheres or chemicals during permanent storage and use.

### **TRANSPORT**

- Protected transport in the equipment case or device bag.

### **REPAIRS**

- For reasons of liability, repairs may only be carried out by the manufacturer.
- Only original spare parts from the manufacturer may be used.



### **FALLSTOP**

Equipment for securing and rescuing at heights and depths

### **SAFEPOINT**

Stationary securing systems for architecture and industrial applications

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