

Model: _____

Purchase Date: _____

Serial No: _____

Date of First Use: _____

Year of Manufacture: _____

User: _____

Comments: _____

Inspection Every 12 Months: _____

Date	OK	Inspector



PN 401

GRIP DESCENDER

Single rope descender with two jamming positions



CE 0120 TUV PRODUCT SERVICE GMBH
TEC SPORT, RIDLERSTRASSE 65
D-80339 MUNCHEN, GERMANY

EN 341 Class A Ropes diameter **Ø11mm**

WORK and RESCUE in accordance with norm EN 341 class A it is **obligatory to use only ropes with a diameter of Ø11mm.**

USE: rescue, industry, sport...independent descent, assisted descent, emergency evacuations, work at a height...**WORKING LOAD:** 30-150kg; Loads of over 150kg are not recommended because of possible high IMPACT forces on other components of other system.

“PN-401 can be used with a load of up to 200kg. but only in exceptional cases like accompanied descent of both the rescuer & the personal being rescued.

However, it is to be ensured in such cases that no impact loading is given to the system & **MAXIMUM DESCENT DISTANCE IS 200m.**

This equipment is not suitable for use in a fall arrest system.

ROPE DIAMETERS:

Authorise is used of static, semi-static, (EN 1891) or dynamic (EN 892) rope of kernmantel construction.

Ø11 mm for EN 341 Class A
(MAMMUT FLEX (Ø11mm), MAMMUT PERFORMANCE (Ø11mm), TEC STATIC)

10 mm ≤ Ø ≤ 12 mm for EN 12841 Type C

Descender TESTED AND APPROVED FOR AN ENERGY OF DESCENT (EN 341 Class A) $W=m \times g \times h \times n = 7,5 \cdot 10^6 \text{ J}$

*equivalent to 100 descents of 100 m with 75kg dummy

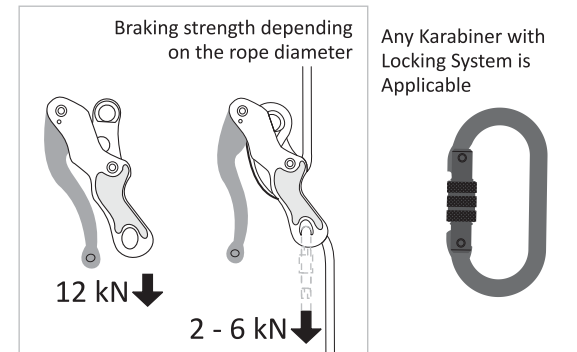
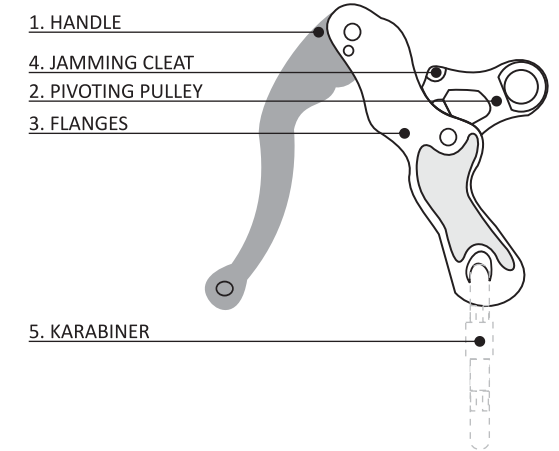
m: mass (kg)

g: acceleration due to gravity = 9,81 m/s²

h: height (m)

n: number of descents

NOMENCLATURE OF PARTS PN 401



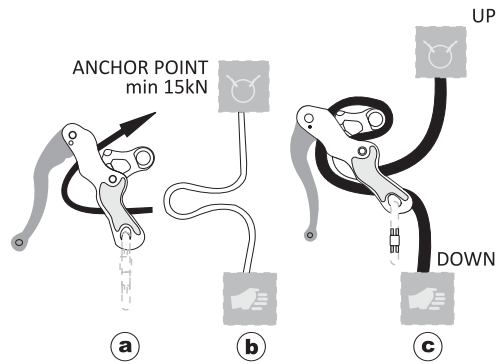
Rope (core+sheath) static, semi-static (EN 1891)

KARAM Industries

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Distt.-U.S. Nagar (Uttarakhand) 262405
Toll Free No.: 1800 103 7085
e-mail: customercare@karam.in

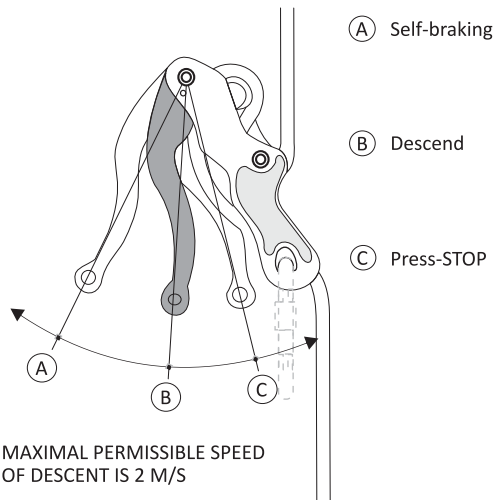
www.karam.in

[1] PUTTING THE ROPE INTO THE DESCENDER

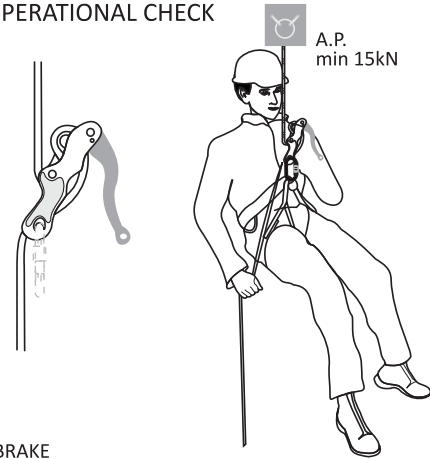


ATTENTION: For making the loop you need at least 40 cm of rope

[2] FUNCTIONING PRINCIPLES

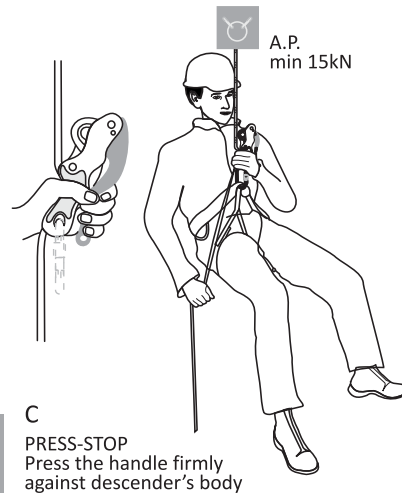


[3] OPERATIONAL CHECK



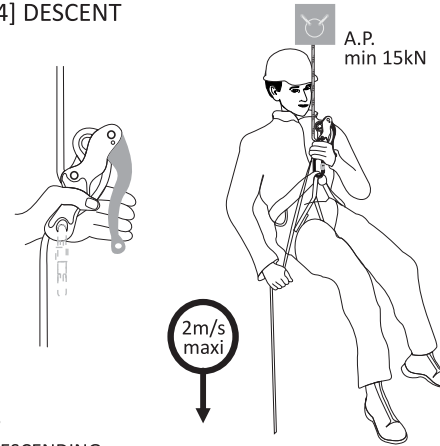
A
SELF-BRAKE
There should be no pressure on the handle.

[5] PRESS-STOP



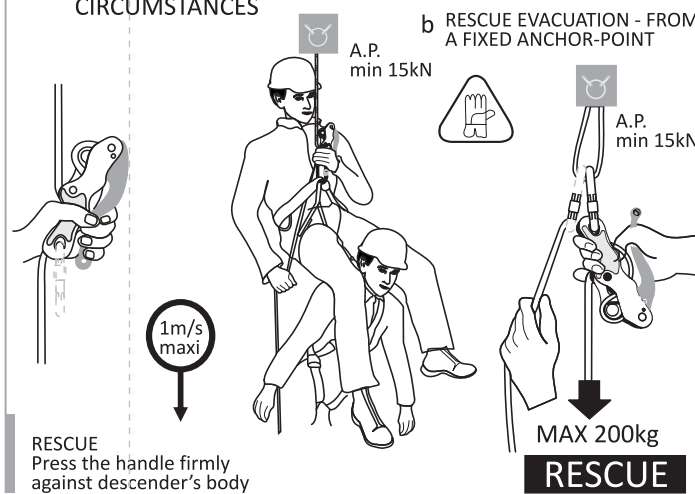
C
PRESS-STOP
Press the handle firmly against descender's body

[4] DESCENT



B
DESCENDING
Push the handle into the middle position

[6] ACCOMPANIED DESCENT - ONLY IN EXCEPTIONAL CIRCUMSTANCES



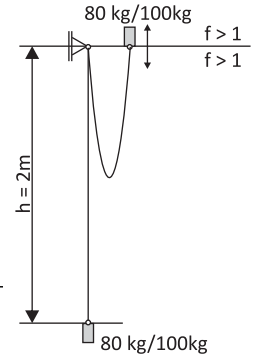
RESCUE
Press the handle firmly against descender's body

[7] FALL FACTOR

$$l = 2 \text{ m}$$

$$f = \frac{h}{l} = \frac{2 \text{ m}}{2 \text{ m}} = 1$$

f = FALL FACTOR
l = ROPE LENGTH
h = FALL DISTANCE



[8] DATA ON PN 401

BODY CONTROLLING THE MANUFACTURING OF PPE:		
MANUFACTURER or SUPPLIER	SERIAL NUMBER WW.YY.XXX	
MODEL		PN 401
PICTOGRAM		UP DOWN
EN 341 CLASS A ROPE DIAMETER		EN 341 CLASS A ROPE = Ø11mm or EN 12841 TypeC 10 ~ Ø = 12mm
PICTOGRAM		UP DOWN PATENTED
WW YY XXX		SERIAL NUMBER PRODUCTION YEAR PRODUCTION WEEK

LOWER FLANGE

UPPER FLANGE

FUNCTIONING PRINCIPLES

Figure 1 : Installation of The Rope

Descender can be either attached to the harness (device in moving mode-in this case descender slides along the rope) or it can be fastened to the anchor (device in fixed mode-in this case the rope slides through the device). To install the rope in the device the former ought to be formed into a sling (b). handle (1) of the descender has to be pushed in its extreme open position and the pivoting pulley. (2) has to be draw out of the device up to its terminal point. Now the sling (b) can be pushed in between both flanges at their lower and (a), that is, between the Karabiner and the pivoting pulley. Care ought to be taken that the load carrying end of the rope/sling (anchor's or load's end) is situated by the pulley and the free end of the rope by Karabiner (c). Then twist the sling round the pulley between the upper end of eighter flange and thus embrace the pulley with the sling. Be careful that the jamming cleat (4) is located between either rope. (c) Eventually move the pivoting pulley back in the device and thus the rope is installed in the descender. If the rope has not been inserted correctly the device will be of no use, unable to perform its function.

FIGURE 3: OPERATIONAL CHECK

The user must before using the descender verify that the rope is installed correctly and carry out the operational test of the device. loading it with his body weight.

FIGURE 4: DESCENT

After having properly inserted the rope and loaded the device with his own weight the user ought to grasp with one hand the free end of the rope (approx. 0,5m below the descender) and embrace with fingers and thumb of the other hand the body and handle of the device. Then he starts pushing slowly the handle toward the descender's body which enables him to slide downwards at appropriate speed. The maximal permitted speed of descent is 2m/s. As during the descent the device gets heated the speed of descent must be adapted also to weight of the user's body; if the 1m/s. By increasing pressure on the handle the user will active high enough the descent will be stopped entirely. On the other hand, by releasing the handle setting it free the descent is stopped automatically.

FIGURE 6/a: RESCUE EVACUATION-DESCENT ASSISTED BY RESCUER:

This method of evacuation can only be adopted by rescuers specially trained in this technique. Maximum load 200 kg, no impact loading tolerated. The rescuer fastens the descender to his harness. Obligatory is the use of additional karabiner for supplementary braking as well as the use of gloves.

Additional safety line must be used for secure rescuer and injured person. Anchor point for safety line must be independent.
USE ONLY ROPE WITH diameter of 11mm.

Figure 6/b: RESCUE EVACUATION FROM A FIXED ANCHOR-POINT:

Fasten the device to the anchor. The free end of the rope Pass through the additional karabiner for supplementary Braking. With one hand press the handle and with the other hand hold the free end of the rope, keeping it about 0.5m off the karabiner. Highly recommended is the use of gloves.

The anchor point must be above the user and the anchor line must be pulled through the device to avoid any slack between anchor point and device.

WARNING: During the rescue operation the descender runs hot and so the rescuer may sustain injuries of the hand holding the free end of the rope.

Safety measure/WARNING:

- For the sake of safety this product shall be scrapped after a major fall. The latter may cause inner, non-visible ruptures which would lead to a reduction of product's strength. Owing to that the product may not withstand another major fall.
- Any repair or modification outside our production facilities is for bidden.
- User of this equipment ought to be acquainted with the rescue techniques to be applied in the case of an accident.
- It is extremely dangerous the usage of this device when it is oiled or very dirty. The same is valid for the anchor line.

GENERAL INFORMATION

Packing, Storage, Maintenance and Cleaning

Each product, together with INSTRUCTIONS FOR USE, is packed in its own cardboard box.

Proper maintenance and storage are imperative to ensure integrity of equipment as a whole (i.e., including the component parts) and thus the user's safety.

Dirt should be removed from the product by washing and rinsing it in clean water, followed by wiping it up and drying. If indicates so on the label, it should be also re-lubricated. All chemicals, corrosive materials and acid or basic solvents shall be avoided. If, however, during its use the product is bound to come in contact with such a material, please notify us beforehand and let us know the exact composition of the material in question. Then we will look into the problem and, after examination, advise you appropriately.



KARAM

The product you are going to use was designed to offer you the highest degree of safety which may be expected from this type of equipment. In the design has been taken into account the Directive 89/686/EEC PPE.

Important recommendations:

- Use of this product is feasible only in combination with other parts of the total equipment needed. Therefore check carefully whether the product is compatible with other parts/components of the said equipment.
- Each of the components constituting the system ought to have the relevant CE CERTIFICATE.
- Life time of this product will be extended if it is used with care. In particular avoid rubbing against abrasive surfaces and/or sharp edges.

Regular examination means safety:

- Before and after each use**, a close visual examination should be made of the product as well as of all other parts/components of the equipment for only so you will be sure that the latter in perfect working condition.
- Do not hesitate to scarp a product that shows signs of wear and tear.
- Obligatory are periodical inspections (at least once a year) via authorized person. For better control of products in use an inspection record ought to be held for each product.

INSTRUCTIONS FOR USE

INSTRUCTIONS BEFORE USE:

Before each use it is obligatory to check the device and verify that all its components (handle, pivoting pulley, flanges) are faultless and in good working condition. Further, before each use it is imperative to carry out operational test of the descender.

Warning: Specific training is required before used!

The device must be used merely by specially trained and competent persons who know how to operate the descender and are acquainted with possible fatal implications of its incorrect application. Rescue, climbing, exploration of caves, work at height, rapelling are dangerous activities that may lead to severe injuries or even death. Therefore the user ought to be aware of the risks involved and use this product with full responsibility; if he is unable or unwilling to behave so he shall not use this equipment. Highly recommended is the use of gloves. A knot must be tied in end of the rope to stop the descender from slipping out of the rope.

Temperatures:

use and stock this product within the temperature rang from - 40°C to + 80°C.

Major falls:

Do not continue using this product after a major fall, even if there are no visible signs. Possible internal damage may have occurred, thus reducing its margin of safety.

Limitations of the guarantee:

Modifications or alternations, bad storage, damage occurred due to accidents, and uses for which the product was nor designed, KARAM is not responsible for the consequences.

Lifetime:

It is impossible to indicate exact lifetime of the product for it depends on frequency and mode of application, on environment where it is used (marine, cave, corrosive atmosphere), and on mechanical wear or damage. Apart from visual examination of product before and after each use, it should be inspected at least once a year by an authorized person. For his own safety the user should keep a record of periodic inspection on the attached card. Provided that these INSTRUCTIONS will be observed closely, at average usage of the product its service life is expected to be seven years.

Guarantee:

For this product the producer offers a three year guarantee against any faults in materials and/or manufacture.

The guarantee does not apply in cases of misuse, normal wear and tear, non-authorized modifications or alterations, improper storage, accidents, negligence, damage, and uses for which the product has not been designed.

PRODUCT : ANCHORAGE WEBBING SLING

REF. NO. : PN 803

DOC. NO.	QF/RD/05
ISSUE	01
REVISION	01
DATE	10-01-2014



CONFORMING TO EN 795:2012 TYPE B

1	PHYSICAL PARAMETERS	GENERAL		<ul style="list-style-type: none"> Made up of 44mm wide polyester webbing. Black thread used with green webbing. Has a textile loop attachment at one end and a D-Ring attachment at the other end. Available in length of 1.2 Meter or as requested.
			WEIGHT	270 gm ± 10 gm
2	TEXTILE COMPONENT	WEBBING	MATERIAL WIDTH BREAKING STRENGTH	Polyester 44±1mm 25 kN Min.
		STITCHING THREAD	MATERIAL COLOR	High tenacity polyamide Black
3	METALLIC ASSEMBLY	D-RING	MATERIAL PLATING FINISH	High strength steel Zinc plated Deburred and Polished
4	VITAL TEST COMPLIANCE	STATIC STRENGTH	CONFORMITY	18 kN sustained for 3 minutes without failure.
		DYNAMIC STRENGTH & INTEGRITY TEST	CONFORMITY	When tested dynamically with a rigid steel mass of 100 kg held following 3.1 m free fall, the test mass was arrested. Than it hold an increased mass of 300 kg for 3 minutes.

PRODUCT : TWISTED ROPE E.A FORKED LANYARD

REF. NO. : PN 351

DOC. NO.	QF/RD/05
ISSUE	01
REVISION	01
DATE	16-12-2013



CONFORMING TO EN 355: 2002
with Combination Certification
+ VG 11/PFE 63
(Additional Static Strength Test)

1	PHYSICAL PARAMETERS	GENERAL		<ul style="list-style-type: none"> • Y shaped, double leg twisted rope lanyard. • Rope lanyard incorporated with Energy Absorber (PN-300). • Rope ends spliced and covered with polyethylene protective sleeve. • Abrasion resistant thimbles provided inside loops. • One side of Energy Absorber equipped with Karabiner (PN-112) while other two lanyards equipped with Steel Scaffold Hook (PN-131). • Rope used comply to ISO 1140. • Ø12mm three strand polyamide rope. • Green strand in the rope to indicate degradation of material. • Rope breaking strength min. 25 kN.
			WEIGHT	1.5 meter : 1550 gm ± 10 gm 1.8 meter : 1850 gm ± 10 gm 2.0 meter : 1890 gm ± 10 gm
2	METALLIC ASSEMBLY	KARABINER PN 112	MATERIAL BREAKING STRENGTH FINISH	Alloy steel 25 kN (Min.) Silver/Golden Yellow Galvanized
		STEEL SCAFFOLD HOOK PN 131	MATERIAL BREAKING STRENGTH FINISH	Forged Alloy Steel 25 kN (Min.) Silver/Golden Yellow Galvanized.

3	VITAL TEST COMPLIANCE	STATIC STRENGTH	CONFORMITY	When tested for Static pre-loading, the permanent extension caused by activation of the Energy absorber after pre-loading with 2 kN is not greater than 50mm. Fully Developed E.A Lanyard sustains a force of 15 kN for 3 minutes without separating, tearing or rupture of the lanyard or any element connected to it.
		DYNAMIC PERFORMANCE	CONFORMITY	Maximum breaking force does not exceed 6 kN in the line when tested on giving free fall of 4 meter height attached to a rigid test mass of 100 kg after raising the mass to its maximum height.