K-STRONG®
UNRIVALED SAFETY.

USER INSTRUCTION MANUAL

IRSQ GRIP DESCENDER

THESE INSTRUCTIONS APPLY TO THE FOLLOWING MODEL:

AFX202001

CE 0598

EN 341:2011/2A,
EN 12841:2006 Type C

Please read and understand the manufacturer's instructions for each component or part of the complete system. Manufacturer's instructions must be followed for proper use, care, and maintenance of this product. These instructions must be retained and be kept available for the user's reference at all times. Alterations or misuse of this product, or failure to follow instructions, may result in serious injury or death.

Note: The user is advised to keep this user instructions document for the life of the product.

The Grip Descender is classed as a Personal Protective Equipment (PPE) by the European PPE Regulation (EU) 2016/425 and has been shown to comply with this Directive through the Harmonized European Standard EN 341:2011/2A, EN 12841:2006 Type C. This Fall Arrester is designed to minimize the risk of/provide protection against the danger of falling from heights. **However, always remember that no item of PPE can provide full protection and care must always be taken while carrying out the risk related activity.**

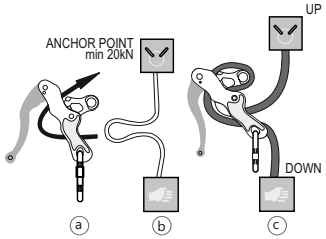
PURPOSE (EN 341:2011/2A):- Designed for descent on a single rope, it is equipped with a unique Self Braking System which initiates the brake as soon as the handle is released, or clasped too tightly, as per required intervention at the user.

PURPOSE (EN 12841:2006) Type C :- Allow workers to access difficult-to-reach locations without the use of scaffolding, cradles or an aerial work platform. Rope access technicians descend and traverse ropes for access and work while suspended by their harness. The support of the rope is intended to eliminate the likelihood of a fall.

APPLICATION (EN341:2011/2A):- Application of the descender is for the descent on a single rope over a controlled speed. Also, suitable for self-rescue and evacuation.

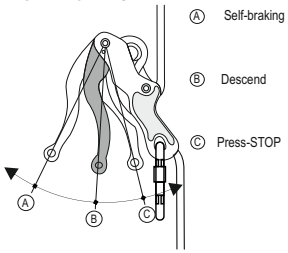
APPLICATION (EN12841:2006):- Applications for modern rope access include inspection, surveying, maintenance, and construction on bridges, dams, wind turbines, towers, buildings, and industrial plants. While inspection is the most common application, painting, welding, cutting and heavy material handling can be accomplished by rope access professionals using specialized procedures. It may also be used for rescue of victim post fall arrest when used with a system.

[1] PUTTING THE ROPE INTO THE DESCENDER



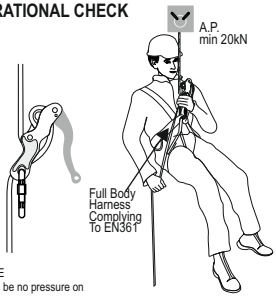
ATTENTION: For making the loop you need at least 40 cm of rope

[2] FUNCTIONING PRINCIPLES



Maximal permissible speed of descent is 2 m/s

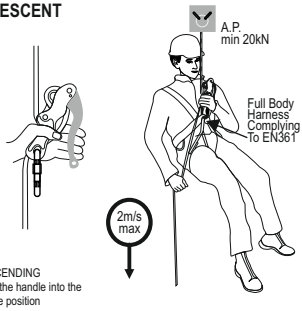
[3] OPERATIONAL CHECK



A

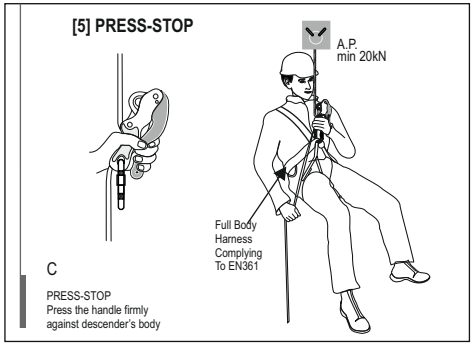
SELF-BRAKE
There should be no pressure on the handle.

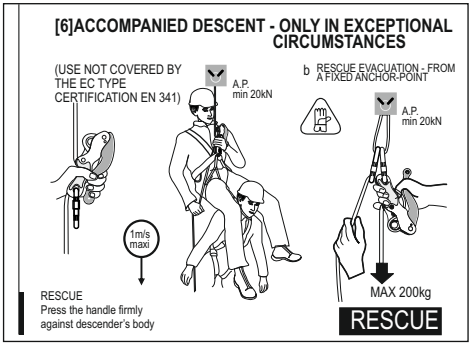
[4] DESCENT



B

DESCENDING
Push the handle into the middle position





1. INSTRUCTION FOR USAGE:

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.

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, rope handle of the descender has to be pushed in its extreme open position and pivoting pulley should also be rotated at its extreme open position. Now the rope can be pushed in between both flanges at their lower end that is in between the karabiner and the pivoting pulley. Care must be taken that the load carrying end of the rope is situated by the pulley and the free end of the rope by karabiner. Then twist the ropes around the pulley between the upper end of either flange and thus embrace the pulley with the rope. Be careful that the jamming drive is located between either rope. 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 and will be unable to perform its function.

FIGURE 2: Description of functionality

FIGURE 3: Operational check

Before using the descender, the user must 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 properly inserting the rope and loaded the device with his own weight, hold the free end of the rope (approx. 0,5m below the descender) and hold the handle device from other hand with one hand. Then start pushing the handle slowly toward the descender's body which enables the victim to slide downwards at appropriate speed. The maximum permitted speed of descent is 2m/s. As during the descent the device gets heated so the descent speed must be adapted to user's body weight by adjusting the pressure on the handle. If the user will grab/press the handle with excessive force, descent will stop completely. On the other hand, by releasing the handle free, the descent will again stop completly.

When used to Descend as per EN 341:2011/2A only use with rope sold with the PPE.

For Rope Access as per EN12841: 2006 safety line as per EN 1891 type A an additional safety line of diameter Ø 10.5mm to 12mm should be used.

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.

2. INSTRUCTIONS FOR EN 341: 2011/2A

- Maximum rated Load : 130 Kgs Minimum rated load : 30 Kgs Maximum descent height : 50 m.
- Lowest Temperature at which device can be used : -3°C.
- When handle not pushed at all, descender locks automatically allowing hands off suspension of the user.
- Descender device installed at a workstation and left in place between inspections should be protected adequately against environmental conditions.

- Any slack in the line between the user and anchor point should be avoided.
- Descender device is fit for usage upto 115 nos. of descent allowed before service and/or replacement.
- It is vital to keep control of tail rope to reduce the risk of serious injury or death.
- Cautions may be taken as descender device may be hot during or after use and may damage the life line.
- A textile rope of Ø 11 mm to be used having termination loop at anchorage end, two sewn buckles at free end and reinforced with a plastic thimble.
- Connect the Descender with a connector EN 362 to the harness and connect the line with connector to the anchorage.
- **USE: Self Evacuations, Assisted descent, Emergency Evacuations, Work at a height...WORKING LOAD: 30-130kg; Loads of over 130 kg are not recommended because of possible high IMPACT forces on other components of other system.**
- **However, it is to be ensured in such cases that no impact loading is given to the system and MAXIMUM DESCENT DISTANCE is 50m.**
- ROPE DIAMETERS: Ø11 mm for EN 341 Class A
- Descender TESTED FOR AN ENERGY OF DESCENT (EN 341 Class A) $W=m \times g \times h \times n = 7{,}5 \cdot 10^{c}$ J
  $7.5x10^{c}$ =130x10x150xN
  N=115 Descents
  n: number of descents
- Sheath slippage S = 0.3% s
- Elongation E =2.9%
- Mass of the outer sheath S =42.1% p
- Mass of the core material C = 57.9%
- Mass per unit length M =73g/m
- Shrinkage R= 2.5%
- Static strength without end = 30.3kN
- Static strength with ends = 15kN
- Material of Rope Polyamide yarn natural white 1680 D and 1260 D

WARNINGS:

- Descender Device should only be used by a person competent in its use.
- Connection of descender device to the anchor point should be arranged so that descent is not impeded.
- It is vital to always descent in control, because loss of control may be difficult to recover.
- Descender device is for rescue purpose only.

3. INSTRUCTIONS FOR EN12841:2006 Type C

- EN12841 :2006 Type C Rope adjustment device.
- Rope made up of Kernmantle construction having dia 10mm to 12mm may be used with rope adjustment device, Conforms to EN 1891 Type A.
- Anchor line conforming to EN1891 having diameter from 10mm to 12mm , full body harness conforming to EN361 and connectors conforming to EN362 shall be used as system with rope adjustment device.
- It is important that strength of Anchor selected must be minimum 20kN.
- Anchor lines should be attached to the anchor points above users head.
- Any slack in the line between the user and the anchor point must be avoided.
- When the adjustable anchor line is loaded with the full weight of the user, this becomes a working line and a safety line should be used in addition for optimum safety of the user.
- This system is not suitable to be used in fall arrest system.
- Primary function of this device is progression along the working line and shall always be used in conjunction with type A rope adjustment device and a safety line.
- Any overload/ dynamic loading on the rope adjustment device may damage the anchor line.
- **Rope Diameters:**
  - The rope used should be static, semi-static, (EN 1891) rope of kernmantel construction 10.5mm ≤ Ø ≤12mm for EN 12841:2006 Type C.
  - Primary of Type B and Type C rope adjustment devices is progressive along the working line and they shall always be used in conjunction with Type A rope adjustment device and a safety line.
  - When the adjustable anchor line is loaded by the full weight of the user this becomes a working line and that a safety line should be used in addition for optimum safety of the user.
  - Type C rope adjustment devices is progression along the working line, and they shall always be used in conjunction with a Type A rope adjustment device and a safety line.
  - Any overload or dynamic loading on the rope adjustment device may damage the anchor line.

Limitations:-

- Connectors confirming to EN362:2004 having length 106mm shall only be used with the rope adjustment device. User must not deviate from above specifications.
- Maximum inclination from the vertical is allowed at 1°.

- Device is safe to be used by a user of maximum 130kg. mass upto height of 150 meter for 115 no. descents.

WARNINGS:-

- Keep it away from extreme temperatures (heat or cold), dirt, dust and do not lubricate with oil as it may affect the functionality of the device.
- Withdraw immediately from use if in doubt about safe conditioning of the device.
- Product can be severely damaged if in contact with chemical reagents.

4. INSTRUCTIONS:

- Connectors (conforming to EN 362) may be used to connect to the lanyard.
- Harness must be snug fit and comply to the EN 361for decent or rescue, use fall attachment Point marked with A of the harness to connect the device to user with karabiner.

WARNING:

- The equipment shall not be used outside its limitations, or for any purpose other than that for which it is intended.
- The manufacturer is not responsible for any dangers that may arise be the use of combinations of items of equipment in which the safe function of any one item is affected by or interferes with the safe function or another.
- Immediately withdraw the equipment from use in following conditions:-
  - If any doubt arise about its condition for safe use.
  - It has been used to arrest a fall; do not use the product again until confirmed in writing by a competent person that it is acceptable to do so.
- It is essential for safety to verify the free space required beneath the user at the workplace before each occasion of use, so that, in the case of a fall; there will be no collision with the ground or the other obstacle in the fall path.
- When the equipment becomes wet, either from being in use or when due to cleaning, it shall be allowed to dry naturally, and shall be kept away from direct heat.
- It is emphasize the need for regular periodic examinations, and that the safety of users depends upon the continued efficiency and durability of the equipment.
- The periodic examinations are only to be conducted by a competent person for periodic examination and must be strictly in accordance with the manufacturer's periodic examination procedures it is recommended to perform periodic examination of frequency of every 12 months.
- Do not use in case the marking is not legible.

5. LIMITATIONS:

- Any overload or dynamic loading on the rope adjustment device may damage the anchorage line.
- It is essential for the safety of the user that if the product is re-sold outside the original country of destination the reseller shall provide instructions for use, for maintenance, for periodic examination and for repair in the language of the country in which the product is to be used.
- The Anchor point shall be located over the user's head in order to maintain the potential risk of fall and swing fall.7.
- Any repair shall only be conducted by a competent person for repair, who has been authorised by the manufacturer, and that the repair procedure shall be strictly in accordance with the manufacturer's instructions.

6. GENERAL REQUIREMENTS:

- A Full Body Harness is the only recommended body holding device that should be used with descent device.
- It is important that strength of Anchor selected must be minimum 12kN.
- Anchor lines should be attached to the anchor points above users head.

7. ADVICE AND INFORMATION:

- It should be the personal property of its user.
- It should not be used in highly acid or basic environments.
- The descender has been tested to EN 341:2011/2A, EN 12841:2006 Type C and is appropriate only for single person use .
- Ensure that the structure on to which the anchor is fitted is strong enough to withstand a load of 20kN.
- Ensure that the descender is installed directly above the user's head.
- Device installed at a work station and left in place between inspections should be protected adequately against environment conditions.
- Maximum lifetime of device is upto 10 years. Life span of product is affected by the environment and usage.
- Ensure that the equipment is compatible with other items when assembled into a system.
- Any overload or dynamic loading on the rope adjustment device may damage the anchor line.

8. GENERAL WARNING:

- Ensure the Medical condition of the user does not affect his safety in normal and emergency use.
- The equipment shall only be used by a person trained and competent in its safe use.
- A rescue plan shall be in place to deal with any emergencies that could arise during the work.

- Do not make any alterations or additions to the equipment without the manufacturer's prior written consent and that any repair shall only be carried out by personnel trained by the manufacturer and duly authorized by him.
- The equipment shall not be used outside its limitation, or for any purpose other than that for which it is intended.
- The user has to use gloves to avoid risk of burning on metallic part and also when removing the rope

9. **INSPECTION** : Visually inspect the system before each use to enusre that it is in a serviceable condition and is operating correctly. If during inspection, doubts are raised about the safety of the system or a component, these should be replaced either by the manufacturer or a competent person.

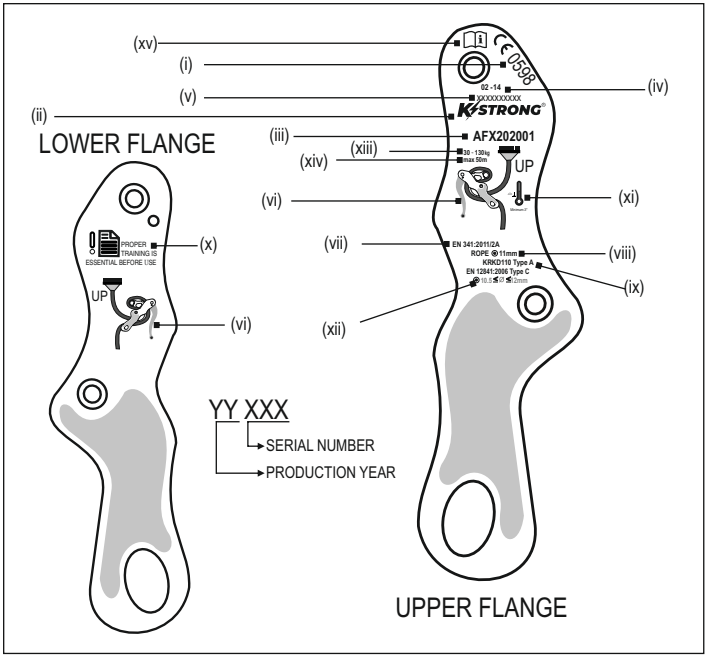
10. **COMPATIBILITY** : To optimise protection, in some instance it may be necessary to use the anchorage rope with suitable PPE such as: boots/gloves/helmet and ear protection. In this case, before carrying out the risk-related activity, consult your supplier to ensure that all your protective products are compatible and suitable for your application.

11. **STORAGE AND TRANSPORT** : When not in use, store the anchor away from heavily acidic or basic environment. Never place heavy items on top of it. Also ensure that it is stored away from chemically hazardous environment preferably storage should be in dry environment.

12. **REPAIR** : If the product becomes damaged, it will NOT provide the optimum level of protection, and therefore should be immediately removed from service. It needs to be inspected to see if it is replaced or repaired. Never use the damaged product. Repair is only permitted by the manufacturer or a nominated repair centre or individual approved by the manufacturer.

13. **CLEANING** : In case of minor soiling, wipe the anchor with cotton cloth or a soft brush. Do not use any abrasive material. For intensive cleaning wash the anchor in water at a temperature between 30°C to 60°C by using a neutral detergent (pH 7). The washing temperature should not exceed 60°C. Do not use acid or basic detergents.

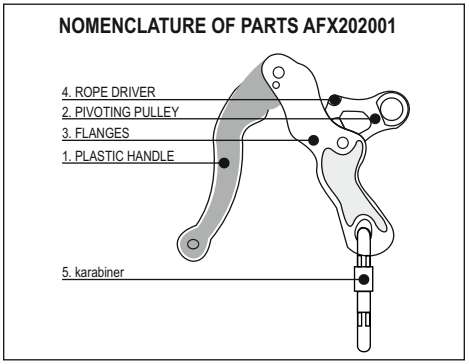
14. **WITHDRAWAL FROM USE** : If the system has been used to arrest a fall, it should be removed from service and returned to the manufacturer or a competent repair centre for servicing and re test.

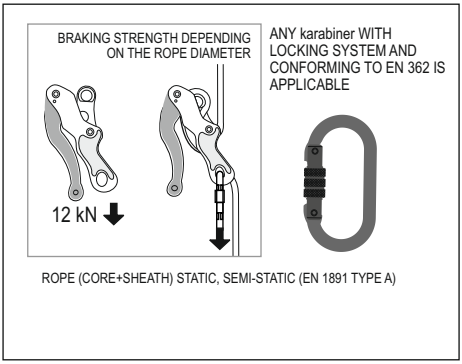


MARKING EXPLANATION

The Descender is marked with:

(i) Body Controlling The Manufacturing of PPE:
(ii) Identification of Manufacturer
(iii) Type or Product Code
(iv) Month / Year of mfg
(v) UID for traceability
(vi) Pictogram showing to route of the line takes through the device.
(vii) Norm and Year
(viii) Rope Diameter
(ix) Kernmantle Rope Construction of 11mm diameter.
(x) Proper Training is Essential before use
(xi) Can be used lowest temp of -3°c
(xii) Rope Diameter Ø=EN 1891, Type A
(xiii) Maximum rated load 30 Kg to 130 Kg
(xiv) Maximum Descent height : 50 m
(xv) Read the instructions before use.





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, exploration of caves, work at height 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. For use as per only EN 341 only use the rope supplied with AFX202001 with termination.

INSTRUCTION FOR MAINTENANCE :

- Follow the maintenance instructions procedure laid below strictly.
- In case of minor soiling, wipe the equipment with cotton cloth or soft brush. Do not use any abrasive material. For intensive cleaning wash in water at a temperature 00 between 25^{0}C to 50^{0}C using a neutral detergent. It should be allowed to dry by itself and be kept away from open fire or any other source of heat, avoid direct sunlight.
- Store in cool dry place, preferably away from moisture, direct sunlight, highly acidic or basic conditions and sharp edges.

LIFESPAN: The estimated product Lifespan is 10 years from the date of manufacture. The following factors can reduce the Lifespan of the product: intense use, contact with chemical substances, specially aggressive environments, extreme temperature exposure, UV exposure, abrasions, cuts, violent impacts, bad use or maintenance.

DISCLAIMER: Prior to use, the end user must read and understand the manufacturer's instructions supplied with this product at the time of shipment and seek training from their employer's trained personnel on the proper usage of the product. Manufacturer is not liable or responsible for any loss, damage or injury caused or incurred by any person on grounds of improper usage or installation of this product.

EQUIPMENT RECORD				
Product				
Model & type/Identification		Trade Name		Identification number
Manufacturer		Address		Tel, email into use
Year of manufacture		Purchase Date		Date first put into use
Other relevant information (eg. document number)				
PERIODIC EXAMINATION AND REPAIR HISTORY				
Date	Reason for entry (periodic examination or repair)	Defects noted, repairs carried out and other relevant information	Name and signature of competent person	Periodic examination next due date

Certification Body :

SATRA Technology Europe Ltd, Bracetown Business Park, Clonee, Dublin D15 YN2P Ireland (Notified Body 2777)

Ongoing Assessment Body:

SGS Fimko Oy, Takomotie 8, FI-00380 Helsinki, Finland (Notified Body 0598)

For EU Declaration, please visit **https://kstrong.com/asia/eu-declaration-form/**

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