



USER INSTRUCTION MANUAL
IRSQ GRIP DESCENDER

THESE INSTRUCTIONS APPLY TO THE FOLLOWING MODEL:

AFX202002

CE 0598

EN 341:2011 Class B,
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.

1. **INTRODUCTION:** The IRSQ Grip Descender is classed as a Personal Protective Equipment (PPE) by the European PPE Regulation (EU)2016/425 and have been shown to comply with this Regulation through the Harmonized European Standard EN 341:2011Class B, EN 12841:2006 Type C.

This Descender 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.

2. PURPOSE AND APPLICATION:

PURPOSE (EN341:2011Class B):- 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. However, upto certain extent user intervention is required while operating the self braking system.

PURPOSE (EN12841:2006) 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 (EN341:2011Class B):- Application of the descender is for 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.

3. **FUNCTIONS:** Descender can be used in many applications such as-

- Controlled descent
- Work positioning
- Ascend on a single rope
- Hauling system

Note- User must be properly trained to use Descender in above mentioned configurations.

4. **INSPECTION:** Visually inspect the system before each use to ensure 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.
- 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.
5. **PRECAUTIONS:**
- 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.
 - The user has to use gloves to avoid risk of burning on metallic part and also when removing the rope.
 - 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.
 - Do not use this equipment in case the marking is not legible.
 - Keep it away from extreme temperature (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 harsh chemical reagents.
 - Descender device should only be used by a person competent in its use.
- 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 user's head.
- 7. INSTRUCTIONS BEFORE USE :**
- Before each use it is mandatory 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.
 - Connectors (conforming to EN 362) may be used to connect to the lanyard.
 - Harness must be of snug fit and comply to the EN 361 for decent or rescue, use fall attachment point marked with A of the harness to connect the device to user with Karabiner.
 - The system comes with connector for ready connection with the attachment point of the full body harness.
- 8. INSTRUCTION FOR USAGE :**

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 rope handle of the descender and is to be pushed in its extreme open position and the pivoting pulley. 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 to be taken that the load carrying end of the rope is situated close to the pulley and the end of the rope must be aside to the Karabiner. Then twist the rope round the pulley between the upper end of either flange and thus embrace the pulley with the rope. Keep attention 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 not be able to perform its function.

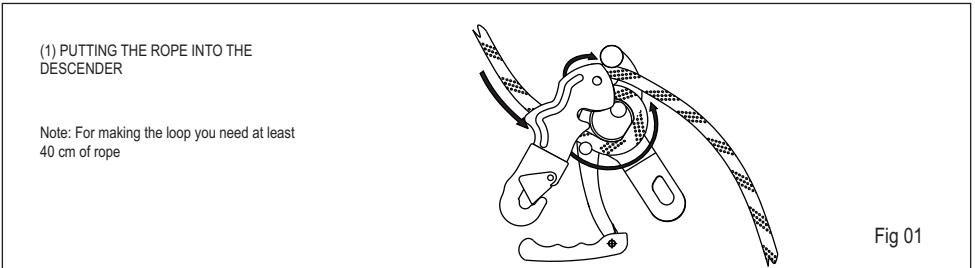


Figure2: Operational Check

Before each use, the user must verify the descender that the rope is installed correctly and carry out the operational test of the device, loading it with his body weight.

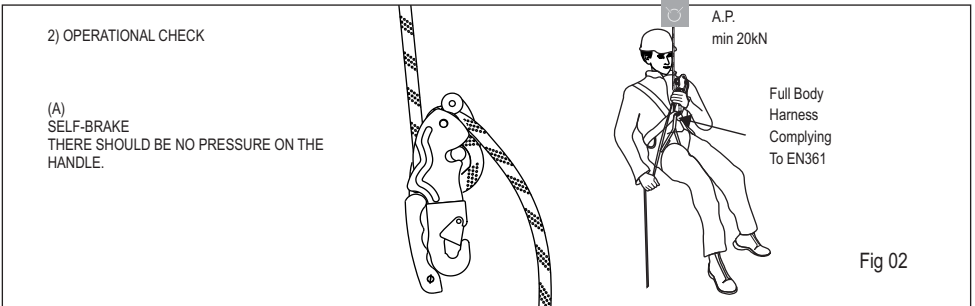
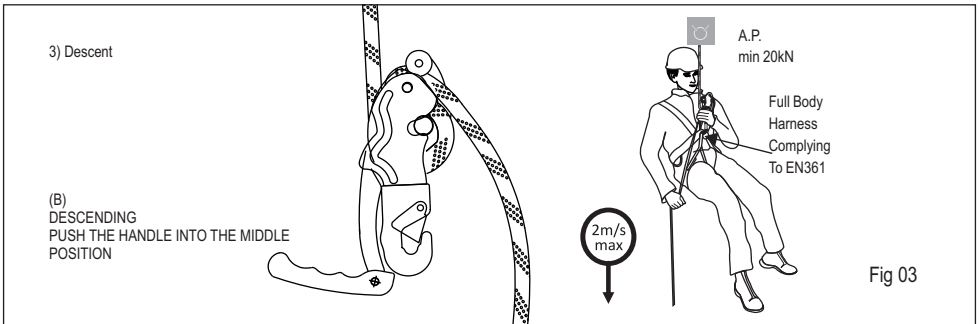


Figure 3: Descent

After properly inserting the rope, the user should load the device with his own weight, hold the free end of the rope (approx. 0.5m below the descender) with one hand and hold the handle device from other hand. Then start pushing the handle slowly toward the descender's body which enables the victim to slide downwards at appropriate speed. The maximal permitted speed of descent is 2m/s. While descending the device will generate heat, hence the speed of descent must be adapted in accordance to the weight of the user's body by increasing pressure on the handle. By releasing the handle, setting it free, the descent is stopped automatically. Note, over activity may stop the descent entirely. When used to descend as per EN 341:2011 Class B, only use with rope sold with the PPE.

For rope access as per EN 1891 type A an additional safety line of diameter Ø 10.5 mm to 12 mm should be used.

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



9. RESCUE EVACUATION FROM A FIXED ANCHOR-POINT: Fasten the device to the anchor. For supplementary braking, pass the free end of the rope through the additional Karabiner. Now, 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. The use of gloves is highly recommended. 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.

10. INSTRUCTIONS FOR EN 341: 2011 Class B :

- Maximum rated Load : 150 kgs, minimum rated load : 30 kgs, maximum descent height : 100m
- Lowest temperature at which device can be used : -3°C
- When the handle is not engaged the descender locks automatically allowing the user to work in suspension.
- Descender device installed in place 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 12 nos. of descent.
- 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 generate heat during or after use and may damage the lifeline.
- A textile rope of Ø 10.5 mm & 12 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: 30-150kg; Loads of over 150 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 100m.
- ROPE DIAMETERS: Ø 10.5 mm - 12mm for EN 341 Class B
- Descender TESTED FOR AN ENERGY OF DESCENT (EN 341 Class B) $W = m \times g \times h \times n = 1,5 \cdot 10^6 \text{ J}$
- $1.5 \times 10^6 = 130 \times 9.8 \times 100 \times n$

- N=12 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

11. INSTRUCTIONS FOR EN12841:2006 TYPE C :

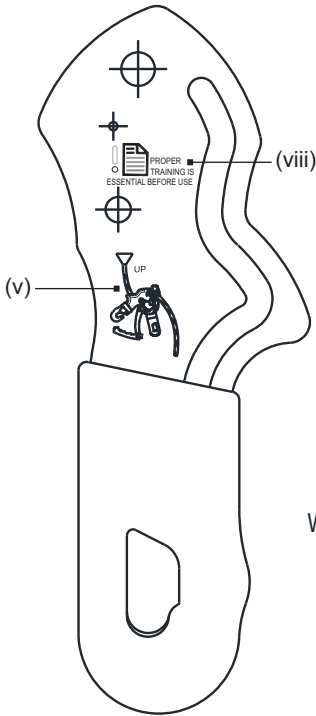
- EN12841:2006 Type C Rope adjustment device
- Rope made up of Kernmantle construction having dia 10.5mm to 12mm may be used with rope adjustment device, Conforms to EN1891 Type A.
- Anchor line conforming to EN1891 having diameter from (10.5-12) mm, full body harness conforming to EN361 and connectors conforming to EN362 shall be used as system with rope adjustment device.
- It is important that strength of Anchor selected must be minimum 12kN.
- 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.
 - Outer Sheath of the Rope :
 - The rope used should be static, semi-static, (EN 1891) rope of kernmantel construction 10.5 mm $\leq \varnothing \leq 12$ mm 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

12. ANCHORAGE STRENGTH: Ensure that the structure on to which the anchor is fitted is strong enough to withstand a load of 20 kN.**13. LIMITATIONS:**

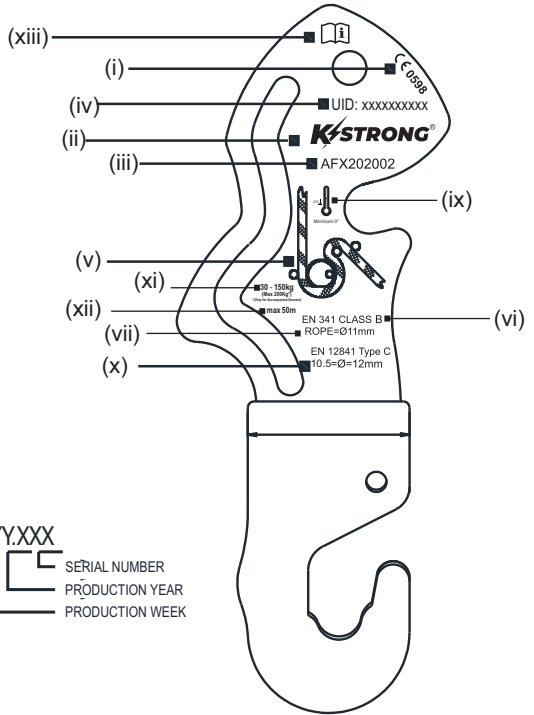
- It should be the personal property of it's user.
- It should not be used in highly acid or basic environments.
- The equipment shall not be used outside its limitations, or for any purpose other than that for which it is intended.
- The descender has been tested to EN 341:2011 Class B, and is appropriate only for single person use .
- Ensure that the descender is installed directly above the user's head.
- Device installed in place and left in place between inspections should be protected adequately against environment conditions.
- 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.
- 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.

- Connectors conforming to EN 362:2004 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 150 kg, mass upto height of 100 meter for 12 nos. descents.
 - Device can be used with a load of up to 150kg (max 200 kg* but only in exceptional cases like accompanied descent of both the rescuer and the personal being rescued).
 - Any dangers that may arise by 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 of another is strictly prohibited.
 - Ensure that the harness used confirms to EN 361 and the Karabiner is connected to attachment elements of the harness; also ensure that harness has an attachment located appropriately to the fall arrester.
 - It is essential for safety that the anchor device or anchor point should always be positioned, and the work carried out in such a way as to minimize both the potential for falls and potential fall distance. Where it is essential that the anchor device / point is placed above the position of the user.
 - Ensure that all markings on the product are legible and readable.
 - Anchor device should be marked with the date of the last inspection.
 - The anchor device should only be used for personal fall protection equipment and not for lifting equipment.
 - Connection of descender device to the anchor point should be arranged so that descent is not impeded.
14. **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.
15. **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.
16. **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.
17. **CLEANING AND MAINTENANCE:** 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.
18. **STORAGE AND TRANSPORT:** When not in use, store the grip descender 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. Standard packaging supplied from manufacturer should be used during transportation to protect the equipment against damage.
19. **WARNING:**
- 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.
 - It is vital to always descent in control, because loss of control may be difficult to recover.
 - Descender device is for rescue purpose only.
 - 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 person trained by the manufacturer and duly authorized by him.

MARKING :



LOWER FLANGE



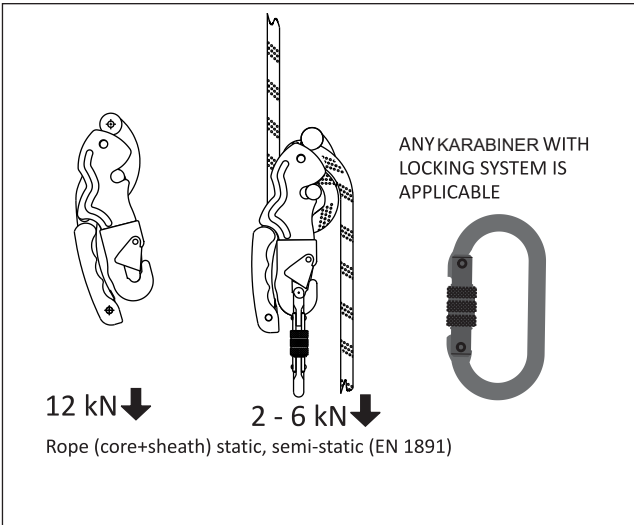
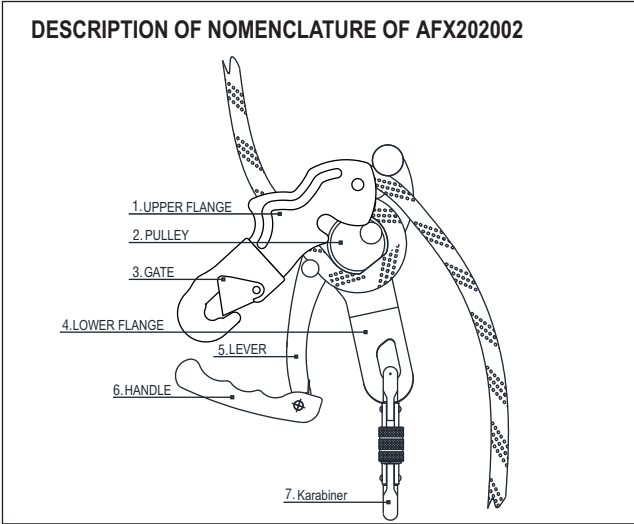
UPPER FLANGE



MARKING EXPLANATION

The Descender is marked with:

- (i) Body controlling the manufacturing of PPE
- (ii) Identification of manufactures
- (iii) Type or product code
- (iv) UID for traceability
- (v) Pictogram showing to route of the line takes through the device.
- (vi) Norm
- (vii) Rope diameter \varnothing = EN 341:2011 (Class B)
- (viii) Proper training is essential before use
- (ix) Can be used at lowest temp of -3°C
- (x) Rope diameter \varnothing =EN 12841:2006 Type C
- (xi) Maximum rated load 30Kg to 150Kg (Max 200 Kg* only for accompanied descent of both the rescuer & the victim)
- (xii) Max descent height: 50 m
- (xiii) 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 the user is unable or unwilling to behave, then they should not use the equipment . Highly recommended is the use of gloves. For use as per only EN 341 only use the rope supplied with AFX202002 with termination.

Certification Body :
GÉPTESZT Kft., Jablonka St. 79, 1037 Budapest, HUNGARY. (Notified Body 2233)

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/>



KStrong Australia Pty Ltd
Unit 4-5 20 Lathe Place, Unanderra, New South Wales, Australia 2526
Contact Email: customercare@kstrong.com.au

www.kstrong.com

USA	South America	Asia	Australia	New Zealand
-----	---------------	------	-----------	-------------

KS GROUP