K-STRONG®
UNRIVALED SAFETY.

BRUTE™

USER INSTRUCTION MANUAL

BRUTE LEADING EDGE RETRACTABLE FALL ARRESTERS

THESE INSTRUCTIONS APPLY TO THE FOLLOWING MODELS:

AFS550002, AFS55002D, AFS550102, AFS550102D, AFS550028, AFS550028D and AFC602100, AFC609101, AFC609102 (MICRON CONNECTOR)

CE 0598
EN 360:2023

Ex II 2G
Ex h IIc T6 Gb
EN 80079-36:2016
EN 80079-37:2016

CERTIFIED PRODUCT

AUSTRALIA & NZ STANDARDS
Certified to AS/NZS 1891.3:2020
Issued by BSI
Vide Lic. No.: BMP 777809

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.

This is the manufacturer's instruction manual drafted with an intention to meet the requirements of EN 360:2023 and Australia and New Zealand standards AS/NZS 1891.3 2020. This manual should be used as a part of an employee training program.

⚠ WARNING !!

The products in this Instruction Manual are a part of a personal protective, work support, or rescue system. The user must read and follow the manufacturer's instructions for each component of the system. This manual contains information important to your safety and should be kept in a safe place for future reference. The instructions provided in this manual are meant for the use of this equipment and should be read thoroughly and understood by the user before the equipment is used. Manufacturer's instructions must be properly followed for the correct use and maintenance of this equipment. Please contact KStrong for any questions regarding the use of this equipment.

1. PRODUCT DESCRIPTION

The Micron Fall Arrestor is classed as a Personal Protective Equipment (PPE) by the European PPE Regulation (EU) 2016/425 and has been shown to comply with this Regulation through the Harmonized European Standard EN 360:2002 and Australia and New Zealand standards AS/NZS 1891.3 2020.

These Retractable Fall Arresters for horizontal usage is designed to minimise 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.

Important Note

While this equipment is designed to enhance safety, no item of PPE can provide absolute protection. Caution must always be exercised when performing activities involving risks. This manual is prepared to ensure safe and effective use of the Brute Range of SRLs. For any inquiries or further assistance, please contact KStrong email customercare@kstrongasia.com or customercare@kstrong.com.

2. TRAINING

To ensure that the user is familiar with the instructions provided in this manual, it is the responsibility of the user to undergo proper training for this, and for correct care and use of this equipment. It is also the employer's responsibility to ensure that all users are trained in proper use, inspection, and maintenance of Fall Protection Equipment.

3. POSSIBLE USAGE

MICRON SRLs can be used as a part of a fall arrest system or as a part of a restraint system. For Fall Arrest, the overhead anchor point must be rated to at least 12kn as per EN and a minimum of 15kN for AS/NZS. Connectors: EN must comply with EN362, for AS/NZS must comply to EN362 with min 6kN gate or ANSI.

The following equipment is to be used specifically in a vertical condition.

4. TECHNICAL SPECIFICATIONS

S. No.	KStrong Model	Material	Length	MBS	Conformity
1	AFS550002	Casing: Robust and durable plastic Textile: Dyneema webbing 21mm Metal: Aluminium Karabiner and Snap Hook	2 Meters	15kN	EN 360:2023 AS/NZS 1891.3:2020
2	AFS550002D	Casing: Robust and durable plastic Textile: Dyneema webbing 21mm Metal: Aluminium Karabiner & Snap Hooks	2 Meters	15kN	EN 360:2023 AS/NZS 1891.3:2020
3	AFS550102	Casing: Robust and durable plastic Textile: Dyneema webbing 21mm Metal: Aluminium Karabiner and Scaffold Hook	2 Meters	15kN	EN 360:2023 AS/NZS 1891.3:2020
4	AFS550102D	Casing: Robust and durable plastic Textile: Dyneema webbing 21mm Metal: Aluminium Karabiner and Scaffold Hooks	2 Meters	15kN	EN 360:2023 AS/NZS 1891.3:2020
5	AFS550028	Casing: Robust and durable plastic Textile: Dyneema webbing 21mm Metal: Aluminium Karabiner and Scaffold Hook	2 Meters	15kN	EN 360:2023 AS/NZS 1891.3:2020
6	AFS550028D	Casing: Robust and durable plastic Textile: Dyneema webbing 21mm Metal: Aluminium Karabiner and Scaffold Hooks	2 Meters	15kN	EN 360:2023 AS/NZS 1891.3:2020

Rated For Fall Factor 2:

In a Fall Factor 2 condition, the user anchors the lanyard at his foot level.

The impact on the user is highest in this situation.

KStrong Micron has been designed to significantly reduce the impact forces applied to user whilst decreasing the risk of serious injuries when used at foot level.

5. Fall Clearance Table :

Item Code	Test	Deployed length of Energy Absorber (cm)	Arrest Force (kN)	Arrest Distance (m)
AFS550002	Leading edge test	50	5.00	1.50
	Vertical Testing	35	5.00	1.50
AFS550102	Leading edge test	50	5.00	1.50
	Vertical Testing	35	5.00	1.50
AFS550028	Leading edge test	50	5.00	1.50
	Vertical Testing	35	5.00	1.50

6. IMPORTANT INFORMATION

- Inspect the equipment according to the manufacturer's instructions before each use. Refer preinspection checklist on page 18-19.
- Inspection of equipment should be done on a regular basis by a qualified person, and the results must be recorded in the inspection log.
- DO NOT REMOVE product labels which include important warnings and information for the authorized person. "Authorized Person" is a person who is exposed to fall hazards during the course of their work. This individual requires formal training in the use of personal fall protection equipment and systems. The term "Authorized Person" may be used interchangeably with "User" and "End-User".
- DO NOT ALTER the equipment in any way.
- Always send the equipment back to the manufacturer or a KStrong Certified Service Centre or persons authorized in writing by the manufacturer for any repairs if required.
- Never use any natural material like Manila, cotton, etc. as part of a Fall Protection System.
- Fall protection equipment should only be used for the purpose for which it has been designed.
- This equipment should never be used for towing and hoisting or for any other purpose than its intended use.
- A competent person must ensure compatibility of the system to minimize any potential of accidental disengagement.
- Authorized persons or users shall be trained on all warnings and instructions provided in this manual.
- It is important for all authorized persons and users to refer to the applicable EN or AS/NZS Standards and to the regulations governing occupational safety.
- Take proper precautions to remove any debris, material, obstructions, etc., from the work area which could cause injury, or otherwise interfere with the functioning of the system.
- Always check for obstructions below the work area to make sure that the potential fall path is clear.
- Keep the equipment away from anything that could damage it such as sharp edges, rough or abrasive surfaces, high temperature surfaces, heat and welding sources, moving machinery, electrical hazards, etc.
- It is important to keep in mind environmental hazards when selecting fall protection equipment.
- Do not expose the equipment to chemicals, highly corrosive or caustic environments, or to direct sunlight and UV radiation, which may cause UV degradation.
- Such harmful environments require a more frequent inspection and servicing program of the fall protection equipment to maintain the integrity and safety of the equipment. Contact KStrong if in doubt.
- All the synthetic material of fall protection equipment must be protected from slag, hot sparks, open flames, or other heat sources.
- It is recommended that heat resistant materials are used in such applications.
- Allow adequate fall clearance below the work surface.
- Always have a Rescue Plan ready and at hand when using this equipment.

⚠ WARNING !!

If a fall were to occur, then the forces of impact could affect the user. Hence it is important to consider the age, fitness level and the health condition of the user before the equipment is put to use. Consult a physician in case the user is not feeling physically fit and has doubts about their ability to safely absorb the fall arrest forces. This equipment is not meant for use by pregnant women and minors.

Immediately discard any product which is exhibiting unusual wear, deformity or deterioration.

Immediately remove from service any equipment that has been subjected to a fall.

7. COMPONENT COMPATIBILITY

Component compatibility with KStrong manufactured fall protection equipment is ensured by strictly following the instructions for each type of equipment used. However, if the user utilizes combinations of components or sub systems that are manufactured by others, then only a “qualified” or “competent” person can ensure the compatibility. If substitutions or replacements are made with non-approved components or sub systems then this may severely affect the compatibility of the equipment, making the complete system unsafe for use.

8. COMPATIBILITY OF CONNECTORS

Connectors are compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Connectors (hooks, karabiners, and D-Rings) must be capable of supporting at least 23 kN.

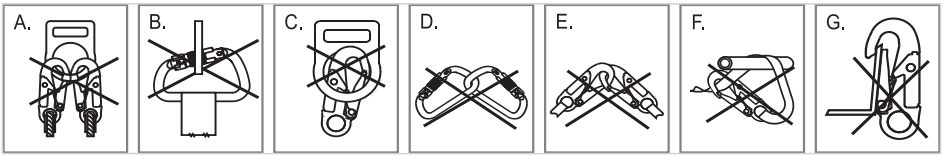
All connectors must be compatible with all system components like anchorages, etc. Never use equipment which is not compatible as this may cause the connectors to disengage unintentionally. All connectors must be compatible in shape and size. As per EN362:2004 or AS/NZS 1891.3 2020, only self-locking snap hooks and Karabiners may be used.

9. CONNECTIONS USING CONNECTORS

Ensure that only self-locking snap hooks and Karabiners are used with this equipment. All connections should be compatible in size, shape and strength. The connectors used should be suitable to each application. Ensure that they are fully closed and locked while in use.

10. NEVER USE INAPPROPRIATE CONNECTIONS

- Two or more connectors should never be attached to a single D-ring.
- Never attach a connector that could result in a load on its gate.
- Connectors should not be connected in a false engagement. It should be visually confirmed that the connector is fully engaged to the anchor point. Avoid conditions when features that protrude from the connectors catch on to the anchor, giving a false sense of being connected.
- Connectors should not be connected to each other.
- Connectors should not be connected directly to the webbing or to the rope lanyard or tie back, unless specifically allowed by the manufacturer.
- Connectors should not be connected to any object which does not allow the connector gate to close or lock. Anchor shapes that allow roll out to occur should never be used for connection. If the anchor to which the snap hook or karabiner is attached is undersized or irregular in shape, then this may allow for the gate of the connector to come in contact with the anchor, thereby causing the connector to open up and possibly disengage from the anchor. This is kNown as roll out of the connector.



- Do not use connectors on an anchorage object as shown in figure A TO G.

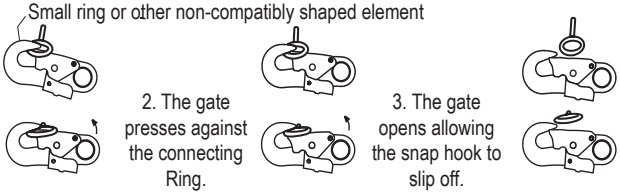
⚠ WARNING !!

Large throat opening snap hooks should not be connected to standard size D-rings or similar objects. If the hook or D-ring twists or rotates, this may result in a load on the gate of the connector. Large throat snap hooks are specifically designed for use on fixed structure elements such as rebar or cross members. These are shaped in such a way that they cannot capture the gate of the hook.

11. IMPORTANT RESTRICTIONS WHILE MAKING CONNECTIONS

- A snap hook should not be connected into a loop or thimble of a wire rope, or attached to it in any way that may slack the wire rope.
- Do not make connections where the connector locking mechanism can come into contact with a structural member or other such equipment as it may potentially unlock the connector and release the connection.
- To connect to a single or a pair of soft loops on a harness, a carabiner that can fully close and lock should only be used. Snap hooks are not allowed for such connections.
- A carabiner may be connected to a loop or ring connector that is already occupied by a choker style connector. Snap hooks are not allowed for such connections.

If the connecting element to which a snap hook (shown) or carabiner attaches is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner. This force may cause the gate (of either a self-locking or a non-locking snap hook) to open, allowing the snap hook or carabiner to disengage from the connecting point.



12. CONNECTING SUBSYSTEMS

Use only those subsystems (full body harnesses, lanyard, rope grab and lifeline, cable sleeves) that are suitable for your application. See subsystems manufacturer's instructions for more information. A full body harness must be worn when using the equipment mentioned in this manual. As per EN or AS/NZS, the free fall distance should be limited to less than 2.0m, when the personal fall arrest system is used. Additionally, the fall arrest force also should be less than 6kN. Ensure the karabiner cannot cross-gate load (load against the gate rather than along the backbone of the karabiner).

13. ENVIRONMENTAL HAZARDS

It is important to take additional precautions while using this equipment in the presence of any environmental hazard so as to prevent injury to the user or damage to the equipment. Environmental Hazards may include the following, but are not limited to:

- Chemicals
- Extreme Temperatures
- Corrosive Environments
- Gases
- High Voltage Power Lines - There is a possibility of an electric current to flow through the lifeline of the SRL's. Moisture absorbed by the lifeline may also cause the electric current to flow through the lifeline. Use extreme caution when working near such lines.
- Sharp Edges
- Moving Machinery and Vehicles
- Please contact KStrong with any questions regarding the use of this equipment in the presence of any environmental hazard.

⚠ WARNING !!

If the equipment has been subjected to forces of fall arrest, in the event of a fall, then the equipment should be immediately removed from service. Contact KStrong regarding any questions related to this.

This equipment is not designed to be used in high temperature environments. It is important to protect this equipment when using near activities like welding or metal cutting. Hot sparks may cause damage to this equipment or burn it. Contact KStrong for details on use of this equipment in high temperature environments.

14. ANCHORAGE STRENGTH

- The application type determines the anchorage strength requirement. As per the European EN795:2012 and Australia and New Zealand standards AS/NZS 1891.3 2020, the necessary anchorage strength for the following applications is listed below:
- **Fall Arrest:** For this choose an anchorage that has a minimum of 12 kN (EN) and 15kN (AS/NZS), applied in directions permitted by the system. However, if more than one fall arrest system is attached to the anchorage, then the strength required has to be 23 kN multiplied by the systems attached to the anchorage.
- Anchorages that are used for attachment of Personal Fall Arrest Systems (PFAS) shall be independent of any anchorage being used to support or suspend platforms. They should be capable of withstanding a minimum load of 12 kN (EN) and 15kN (AS/NZS) per user attached. They should be designed, installed and used as part of a omplete Personal Fall Arrest System which maintains a safety factor of at least two. Rating of the anchorage should always be done under the supervision of a qualified person.

15. GENERAL LIMITATIONS OF FALL ARREST SYSTEM AND REQUIREMENTS

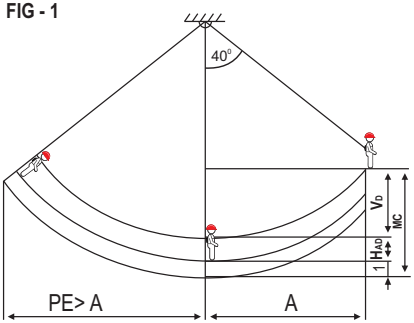
It is important to consider the below mentioned limitations before using or installing this equipment.

- KStrong SRLs are meant for use by ONE person only. The capacity of KStrong MICRONS is from a minimum of 60kgs to a maximum of 150 kg; hence, the combined weight (clothes, tools, shoes etc.) of a person using this equipment should not be less than 60 kgs or more than 150 kgs. It is important to ensure that all the components in the system are rated to a capacity which is appropriate to the application.
- **Corrosion:** The SRL should not be left in any environment for a long period of time, if it causes corrosion of its metal parts. It is important to be cautious while working around corrosive substances like sea water, ammonium compounds, sewage, fertilizers, and other such environments. Corrosive damage impacts the performance of the SRL, hence the inspection of the SRL should be performed more frequently so as to check its functioning and performance.
- **Locking Speed:** The SRL requires an initial speed of retraction of the line to cause it to lock. However, this speed may not be achieved if there is an obstructed fall, or while working in confined spaces. Working in such conditions may limit the speed at which the locking of the SRL is achieved. Special care is required where the SRL is used while working on low-pitched roofs. Here the user may slide on the roof slope, rather than have a direct fall. This could also hamper the SRL locking mechanism. A clear path is required to ensure that the SRL's locking mechanism is activated.
- **Free Fall:** As per EN360 the personal fall arrest systems used with this equipment must be rigged in such a way that the free fall does not exceed 2.0m. Ensure that there is no slack in the lifeline, while using the SRL. Also, never extend the length of the lifeline by connecting a lanyard to it. Do not anchor the SRL at or below foot level unless specifically designed for that function as this will increase your free fall distance beyond the permissible levels as specified by EN360. Additionally, this could also cause excessive load impact on the SRL, thereby exceeding its capabilities to safely arrest a fall. Contact KStrong for any further information required.
- **Sharp edges:** The lifeline of the SRL may be damaged by unprotected and sharp edges, hence they should be protected from all edges. The KStrong Leading Edge tested SRLs are designed in such a way that they provide additional protection from falls occurring over edges. However, protection to these SRLs should be provided from sharp edges such as sheared, cold rolled or flame cut steel. Refer the KStrong Leading Edge SRL UIM.
- **Horizontal systems and Tripods:** It is extremely important to ensure that the tripod or the Horizontal line system is compatible with the SRL. Horizontal systems must be designed and installed under the supervision of a qualified engineer only.
- **Fall Clearance:** There should be sufficient clearance below the user to allow the system to arrest a fall so as to prevent the user from striking the ground or any other obstruction. The clearance required is dependent upon the following factors:

The necessary minimum clearance (MC) below the feet of the user (See below FIG-1and Fall Clearance Chart) to avoid collision with the ground or other obstacles:-

HAD + VD = 1.4m +VD
MC = 1m(Safety Factor) +(1.4m +VD)

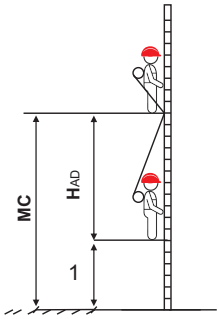
FIG - 1



The necessary minimum clearance (MC) below the feet of the user (See below FIG-2) to avoid collision with the ground or other obstacles in vertical configuration (Foot level attachment):-

HAD = 2.5max arrest distance + 1.5(user height) +0.3(Harness Stretch)
MC = 4.3 + 1m = 5.3m

FIG - 2



FALL CLEARANCE CHART FOR VERTICAL USE

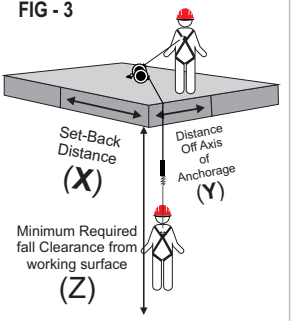
SRL Length (Meter)	Max Offset Angle(Degree)	VD(Vertical displacement due to lateral offset	Fall clearance (MC)	A (Max Offset Distance)	PE (Min. Clearance For Pendulum Effect)
2.00	0	0.00	2.40	0.00	0.00
2.00	10	0.00	2.50	0.30	0.80
2.00	20	0.1	2.5	0.7	1.5
2.00	30	0.3	2.7	1.0	2.2
2.00	40	0.5	2.9	1.3	2.8

All the values in meters

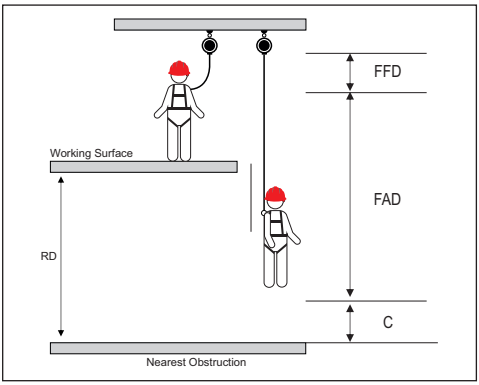
FALL CLEARANCE CHART FOR HORIZONTAL USE

Distance off Axis of Anchorage (Y)					
Set back Distance (X)	Meters	0.0	0.50	1.00	1.50
	0.0	5.40	5.79	6.25	7.01
	1.50	5.40	5.40	5.40	6.10
Clearance Required(Z)-Includes 2 Feet Safety Margin					

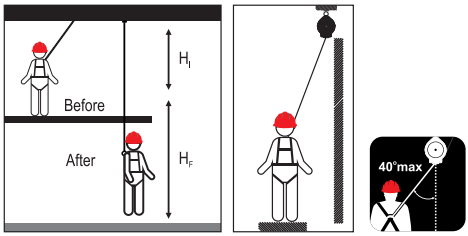
FIG - 3



Over Head Anchor for SRL
FFD = Free Fall Distance 0.6m
FAD = Free Fall Distance + Harness Stretch 1.7m
C = Clearance to Obstruction 1.0m
RD = Required Fall Clearance Distance (from surface to nearest obstruction)
RD = FAD + C (3.3m)



- **Swing Falls:** Swing fall occurs when the position of the anchorage point is not directly above the point where a fall occurs. In such a case if a fall were to occur, it will result in pendulum swing of the fall victim and may also cause them to strike nearby objects with a force. This may cause serious injury or even death. Such swing falls may be minimized by ensuring that the anchorage is directly overhead, and by working as close to the anchorage point as possible. Swing falls will substantially increase the fall clearance required when a SRL or other variable length connecting subsystems are used. Stay within 40° of the overhead anchor when using an SRL.



16. PERIODIC EXAMINATION

Always keep the instructions provided with the product. Take the information from the markings on the product and enter this information in the identification sheet. It is essential to check the condition of the equipment and ensure safety of the user through periodic examination of the product. This equipment must be examined by a qualified person at least once every six months, strictly complying with the instructions of the manufacturer. Also, record the previous check on the attached sheet. If the equipment is in heavy usage or is used in a harsh environment, then the frequency of inspection should be increased in accordance with the regulations. Check also that the markings on the product are legible.

17. PURPOSE AND APPLICATION

KStrong SRLs are used to safely expand the working area, where a harness with a 1.8m lanyard is inadequate. Hence the lanyard line extends to the required length, as per use. When the length is shortened, the line retracts into its casing, ensuring that there is no slack in the line. More importantly, the SRL is designed to immediately arrest the fall of the user, and also to limit the shock loading on to the body of the user. The SRL is a part of the personal fall arrest system, along with other components like full body harness and anchorage connector.

18. LIMITATION OF USE OF KSTRONG SRLs

KStrong SRLs are to be used as part of personal fall arrest, restraint, rescue or work positioning systems.

Full Body harnesses, connectors, hooks, lanyards, etc. are designed in such a way that they work in sync with other elements of a personal fall arrest system. While the SRLs are designed to arrest a fall from height they also minimize the impact load on the wearer. KStrong recommends that only those components or sub systems of the personal fall arrest system which are manufactured by KStrong be used in combination. If other manufacturer's equipment are used, then they should be ensured for compatibility by a qualified person only. If substitutions or replacements are made with non-approved components of sub systems then this may severely affect the compatibility of the equipment, making the complete system unsafe for use.

19. INSPECTION OF COMPONENTS OF PERSONAL FALL ARREST SYSTEM

It is mandatory to have a detailed visual inspection of all the harnesses, lanyards, connectors etc. prior to each use. This ensures that the equipment is in good condition and is operating correctly. If there are any doubts regarding the safe state of product or if the product has been used to arrest a fall, then immediately withdraw the equipment and send it back to the manufacturer or to the qualified authorized repair center. Check on the back-shoulder straps of the harness for the fall indicators, which should be intact. If it is found to be deployed, then the harness should be removed from use immediately. Never attempt to repair or modify a Personal Protective Equipment (PPE).

20. INSPECTION

Pre-use and periodic inspection

It is mandatory that a competent person other than the user must perform a formal inspection of Personal Fall Arrest Systems (PFAS) and its components once at least every six months. This frequency should be altered based on conditions for use or exposure. The competent person shall determine appropriate inspection intervals in accordance with Appendix A of this UIM. The inspection results should be recorded in the equipment record at the end of this manual.

Equipment shall be inspected by the authorized person prior to each use. In addition, equipment shall undergo periodic inspections by a competent person other than the user, and by an authorized inspection centre.

Inspection criteria

The authorised person shall establish and maintain inspection criteria for all equipment. These criteria shall meet or exceed the most stringent requirements specified by this standard or by the manufacturer's instructions. Inspection criteria shall be reviewed and updated regularly to account for changing patterns or conditions of use.

Documentation of inspection

Records of all equipment inspections shall be maintained by the company authorised person . At a minimum, these records shall include:

- Equipment identification.
- Date of inspection.
- Name of the competent person conducting the inspection; and
- Results of the inspection, including any deficiencies detected.

Action on defects

When an inspection reveals any of the following:

- Defects in equipment.
- Damage to equipment.
- Inadequate maintenance; or
- Activated stress indicators.

The equipment shall be immediately removed from service until it has been repaired, replaced, or otherwise deemed safe in accordance with manufacturer instructions.

Purpose and frequency of two-level inspection

The purpose of a two-level inspection system is to provide independent oversight to detect and prevent the use of defective, damaged, or improperly maintained equipment. When deficiencies are identified during a competent person's inspection, the organization shall consider:

- Providing additional training or retraining for users in equipment inspection, maintenance, use, and storage; and
- Selecting alternative equipment if the current equipment is unsuitable for the conditions of use.

The frequency of periodic inspections by a competent person shall be determined by the user organization based on relevant factors, including:

- The nature and severity of workplace conditions affecting the equipment.
- Modes of equipment use; and
- Duration and frequency of exposure to operational conditions.

Appendix A: Inspection Requirements - based on Pre Use Inspections have been completed and recorded.

Type of Use	Application Examples	Conditions Of Use	Inspection Frequency of Competent Person	Authorized Inspection Centers
Infrequent to light	Rescue and confined space, factory maintenance	Good storage conditions, indoor or infrequent Outdoor use, room Temperature, clean Environments	Annually	At least every 3 years, but not longer than intervals required by the manufacturer
Moderate to Heavy	Transportation, residential construction, utilities, warehouse	Fair storage conditions, indoors and extended Outdoor use, all temperatures, clean or dusty environments	Semi-annually to annually	At least every 2 years, but not longer than intervals required by the manufacturer
Severe to Continuous	Commercial, construction, Oil and Gas, Mining and offshore	Harsh storage conditions, prolonged or continuous outdoor use In all temperatures, dirty or corrosive environments	Quarterly to semi-annually	At least annually, but no longer than intervals required by the manufacturer

21. CHOOSE THE RIGHT ANCHORAGE POINT FOR THE SRL

Select the anchorage which should be strong enough to take the load of application. The anchorage should be able to sustain a static load of a minimum 12kN(EN) & 15kN (AS/ NZS) in the direction applied by the personal fall arrest system. The anchor point should always lie directly above the user. Do not work above the anchorage point. The anchor point should also be located in such a place that the swing fall is minimized.

Also, while using the SRL, make sure that there is constant tension in the lifeline, and that there is no slack. If the cable is not taut, then this could increase the fall distance. Also, move normally because sudden jerky movements may cause the locking mechanism of the SRL to activate.

22. INSTALLATION OF SRL ON OVERHEAD ANCHOR POINT

As a stationary device, the SRL has to be mounted on an approved fixed anchorage point which is directly overhead the user. Connect the swivel eye of the SRL with a self-locking karabiner to the overhead anchorage. Connect the snap hook at the end of the lifeline to the Dorsal attachment D-ring of the Full body harness. The SRL would extend as the user moves away from the anchor point, and retracts as the user moves back towards the anchor point.

If the anchorage is mobile, over a steel cable or a fixed rail, then the swivel eye of the SRL is connected to the anchor point with the help of a self-locking karabiner. The snap hook at the end of the SRL is connected to the dorsal D-ring of the Full body harness of the user. Here, since the anchor moves along with the user, the SRL travels along with the anchor from one point to the other.

23. INSTRUCTIONS FOR USE:

Before each use, verify the SRL's locking function by applying a sharp tug to the snap hook at thelifeline termination. The unit must lock immediately. Do not use the SRL if it fails this test.

STEP 1: Connect the swivel eye at the top of the retractable fall arrester to a suitable anchorage point using karabiners as per EN 362 & ensure the karabiner is locked.

STEP 2: Now connect the swivel hook of the equipment to the attachment element of your full body harness and ensure that it is locked. You are now safe to move up & down in normal speed. In the event of a fall, the retractable fall arrester locks and also minimizes the impact forces on the body of user.

Follow Step 3 & Step 4 to use this equipment as single Lanyard.

STEP 3: Connect the swivel eye of the retractable fall arrester to the dorsal attachment of the full body harness with the help of connector as per EN 362 and ensure the connector is locked.

STEP 4: Now connect the scaffold hook at the termination end of the device to the structure and ensure that it is locked. You are now safe to move up & down in normal speed. In the event of a fall, the retractable fall arrester locks and also minimizes the impact forces on the body of user.

Similarly, it can be used where the anchorage point is available at foot level by just connecting the swivel eye of the retractable to the anchorage point and the hook at termination to the dorsal attachment of harness.

Following configurations are possible to use micron -

- It can be used near a potential sharp edges having radius >_0.5mm
- Anchor point above users head.
- Anchor point at foot level.

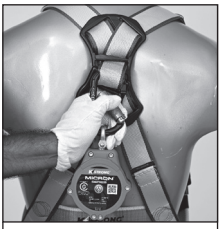
* Block can also be used in sharp edge condition.

Diagram shows compatibility where a twin retractable fall arrester includes two independent RTFA'S and their proper connection to the full body harness.

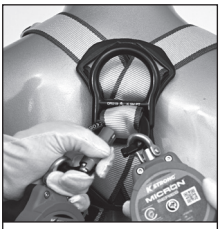
Micron Block is suitable for use when the anchorage point is at foot level and shows the correct anchor point position and proper block orientation.

Follow Step 1 & Step 2 to use this equipment in vertical condition.

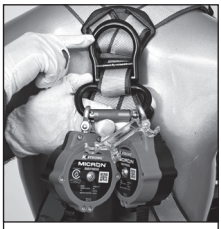
HOW TO USE MICRON AS A SINGLE OR TWIN LANYARD WITH MICRON CONNECTOR (AFC609102)



Insert one Micron Block in the karabiner and insert the karabiner in the webbing loop at the Dorsal.



Insert the separator in the karabiner.



Now insert the second Micron Block.

Move the karabiner to be placed in the centre.

HOW TO USE MICRON AS A SINGLE OR TWIN LANYARD WITH MICRON CONNECTOR (AFC609100)

Insert one Micron Block in the karabiner and insert the karabiner in the webbing loop at the Dorsal.

Insert the separator in the karabiner.

Now insert the second Micron Block.

Move the karabiner to be placed in the centre.

HOW TO USE MICRON AS A SINGLE OR TWIN LANYARD WITH MICRON CONNECTOR (AFC609101)

Open connector by pushing the locking lever and push button at the end simultaneously.

Slide Connector through loosened web straps placed below the Dorsal D-ring, then pull straps tight.

Push the pin inside the grooves of the connector to ensure locking.

⚠ WARNING !!

Inspect all the other components of the Fall Arrest, Work Positioning, Rescue systems that are to be used, as per the manufacturer's instructions.

Remove from use immediately if the equipment shows evidence of having arrested a fall, or if it is unfit for further use.

It is important to ensure that the connecting elements of the connectors are compatible in size and shape, while making a connection with the hooks and carabiners.

Never connect a hook to a hook, or a carabiner to a carabiner, or a carabiner to a hook.

Also make sure not to connect a connector to any element that may cause the hook or carabiner material to distort, abrade or wear out.

24. TRAINING

It is essential that the users of this type of equipment receive proper training and instruction, including detailed procedures for the safe use of such equipment in their work application. Minimum Requirements for a Comprehensive Managed Fall Protection Program, establishes guidelines and requirements for an employer's managed fall protection program, including policies, duties and training, fall protection procedures, eliminating and controlling fall hazards, rescue procedures, incident investigations, and evaluating program effectiveness.

25. RESCUE PLAN

A rescue plan must be in place before performing work at height. The rescue operation must be performed by trained and competent personnel only. The rescue expert team should supervise the rescue operation performed. It is also advised to work in pairs while working on the site.

26. ADVICE & INFORMATION

- The should be the personnel property of the user.
- Ensure that the SRL is compatible with other items when assembled into a system.
- Usage with other non-compatible items may be dangerous & hazardous as the safe function of one item may be affected or interferes with the safe function of another.
- The user should carry out a pre-use inspection check of the SRL prior to use, to ensure that it is in a serviceable condition and operates correctly before it is used. Refer preinspection checklist on page 16.
- The pre-use check shall involve checking of any wear or abrasion on wire ropes/webbing and sign of corrosion if any on metal parts or any breakage of the casing.
- Withdraw from use immediately if there is any doubt about its safe condition or if it has already arrested a fall, the equipment shall not be used again until confirmed in writing by a competent person that it is acceptable to do so.
- Ensure that the strength of the anchor device have a minimum of 12 kN (EN) and 15kN (AS/NZS 1891.3: 2020).
- Use Karabiners to connect to the overhead anchor point. As per EN, karabiners must conform to EN 362 and for AS/NZS must use EN362 with a minimum gate strength of 6kn or ANSI Karabiners.
- It is advisable to use the dorsal attachment D-Ring of the harness for connection to the Retractable Fall Arrester.
- However if it is not possible for any reason, the chest attachment element may also be used.
- It is essential to verify that a minimum 4ms height of free space is available below the user's feet & the ground level at the work place, so that in case of a fall, there will be no collision with the ground or other obstacle in the fall path.
- User is advised to keep the User Instructions document for the life of the product.
- Following conditions may be hazardous & may affect the performance of Retractable Fall Arrester:
    - Extreme temperature
    - Trailing or looping of Lanyards over sharp edges.
    - Extreme acidic or basic environments.
    - Abrasive or sharp edge structures which can damage the equipment.
    - Pendulum falls.
- Ensure that manufacturer's packaging is used during transportation to prevent damage. In case the original packaging is not available, use polybag which is sealed to prevent moisture.
- It is essential for the safety of the user that if the product is resold outside the original country of destination, the reseller shall provide instruction for use, for maintenance, for periodic examination and for repair in the language of the country in which product is to be used.
- This is advised that annual inspection should be done by a competent person & if any discrepancy is found in product service will be done at authorized service center only.

- During inspection, it is necessary to check the legibility of the equipment marking.
- Only the models with the marking on the product itself are suitable for use in an Explosive Atmosphere.
- A full body harness is the only acceptable body holding device that can be used in a fall arrest system.
- Cleaning procedure is to be strictly adhered to manufacturers instructions. Refer KStrong UIMs for procedure for cleaning.
- Inspect all the other components of the Fall Arrest, Work Positioning, Rescue systems that are to be used, as per the manufacturer's instructions.
- Remove from use immediately if the equipment shows evidence of having arrested a fall, or if it is unfit for further use.
- It is important to ensure that the connecting elements of the connectors are compatible in size and shape, while making a connection with the hooks and karabiners.
- Never connect a hook to a hook, or a karabiner to a karabiner, or a karabiner to a hook.
- Also make sure not to connect a connector to any element that may cause the hook or karabiner material to distort, abrade or wear out.
- Ensure the medical condition of the user does not affect his safety in normal and emergency use.
- The SRL 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 SRL without the manufacturer's prior written consent and that any repair shall only be carried out by personnel trained by the manufacturer & duly authorized by him.
- The SRL shall not be used outside its limitation, or for any purpose other than that for which it is intended.
- Any alteration to the device by putting tape, slings, paint, or any other form of alteration is not permitted, and it may lead to major accident or fatality, since this product is a life saving device and no modification should be done by any person / company other than the competent person or organization approved by manufacturer itself.
- The Retractable Fall Arrester and Twin Retractable Fall Arrester may be used under vertical, horizontal, overhead vertical application, foot level vertical application & MEWP (Mobile Elevating Work Platform) application .
- Maximum allowable angle from the true vertical is 40 degrees.
- A connector conforming to EN 362:2004 shall be used to connect with the retractable lanyard. ensure that not more then 600mm of un-retracted length is available out side housing including connector.
- Always make connection to a over head anchorage point rated to 12kN as per EN795:2012 or 15kN as per AS/NZS 5532:2013
- Always make connection to the dorsal attachment of the full body harness conforming to EN 361:2002 by a connector complying to EN 362:2004 or AS/NZS 1891.1 2020.
- Visual fall indicator is available near the swivel eye of the steel snap hook which remains green until the device has arrested a fall. The visual indicator turns red in the event of a fall arrest and the device must be removed from the service.
- The Retractable Fall Arrester shall not be used in any application where self -locking function may not activate like inclined surfaces & free-falling solids.
- User must work vertically below the Retractable Fall Arrester to avoid contact with the ground or any obstacle during a fall, including the risk of pendulum effect (Refer Fig-1) (Page number 8).

I. Additional information

a. It is possible to use a horizontal retractable type fall arrester over an edge type A

b. It is recommended to avoid the loading of the retractable type fall arrester over edges.

II. Additional information

a. The retractable type fall arrester was tested for horizontal use and a drop over a Type A edge has been successfully tested.

Type A edge definition: A steel edge with a radius of r = 0.5 mm and without burrs was used for the test. Due to this test, the equipment may be used over similar edges, as can be found e.g. at rolled steel profiles, at wooden beams or at a clad, rounded roof parapet. However, the following shall be considered when the equipment is used in a horizontal or transverse arrangement and a risk of a fall from a height over an edge exists:

1. If the risk assessment carried out before the start of the work shows that the edge is very “cutting” and / or “not free of burrs” (such as in case of an unclad roof parapet, a rusty steel girder or a concrete edge)

   - relevant measures shall be taken before the start of the work to prevent a drop over the edge or, before the start of work, an edge protection shall be mounted or

   - the manufacturer shall be contacted.

2. The anchor point should only be situated at the same height as the edge at which a fall might occur or above the edge.

3. Ensure adequate clearance as specified in the above chart for vertical, horizontal, and foot-level use to prevent collision with adjacent structures or the ground in the event of a fall.

4. To attenuate a drop ending in a pendulum movement, the working area or lateral movements to both sides of the centre axis shall be limited to a maximum of 1.50 m. In other cases, no individual anchor points, but, eg., type C or type D anchor devices in accordance with EN 795:2012 and AS/NZS 5532:2013 shall be used.

a. The Retractable Fall Arrester Block can also be used with Type C anchor device.

b. The deflection of the anchor device shall be taken into account when determining the clearance required below the feet of the user. To that effect, the indications specified in the instructions for use of the anchor device shall be considered.

c. Care must be taken to avoid collision with any obstruction in the event of a fall.

d. It is advised that, for the event of a fall over the edge, special pre-planned rescue measures must be taken under the guidance of a well-trained and competent personnel.

Before each use, verify the SRL's locking function by applying a sharp tug to the snap hook at the lifeline termination. The unit must lock immediately. Do not use the SRL if it fails this test.

SELF RETRACTING LIFELINE (SRL)

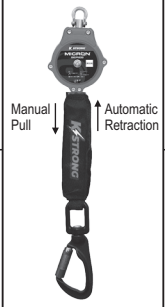
⚠ WARNING !!

Before every use, each SRL must be checked to ensure the locking function is working properly. This is a mandatory step and in case of failure to follow this step the manufacturer will not be liable for any loss, injury or damage. A pre-use inspection must be carried out as per the checklist below and a record of each check must be maintained for the full lifespan of the SRL. It is the user's responsibility to read and understand the manufacturer's instructions provided with the product at the time of shipment and to receive proper training from the authorized personnel. The manufacturer will not be liable for any loss, injury, or damage resulting from incorrect use, lack of training, or improper installation. The suggested service interval of 3 years shall be changed in consultation with authorized person when SRL is intended to be used in Chemical, corrosive, marine or other aggressive environments including extreme temperature exposure, UV exposure, abrasions, cuts, violent impacts, incorrect use, or lack of maintenance.

PRE USE INSPECTION CHECK LIST SELF RETRACTABLE LIFELINE (SRL)

Description:		**Model No.:**	
Serial No.:		**Batch Number:**	
Date of Manufacture:		**Date of Purchase:**	
Inspector:		**Last Inspected on:**	

Checking Area		Inspect for		Guide Lines for inspection	Remarks
1) Block Casing and Anchorage Eye :	a. Casing		i) Damages/ Breakages ii) Cracks iii) Deformations	Check all Moulded parts including Casing, guide & snout,etc for any crack,damage/breakage,deformation, etc. If any non-confirmity found mark the block and send for servicing / repair.	
	b. All Fasteners		i) Availability ii) Tightening of all Fasteners Properly	Check all fasteners for their presence and tightening as well. If any non-confirmity found mark the block and send for servicing / repair.	
	c. Anchorage Eye		i) Availability ii) Damages/ Breakages iii) Cracks iv) Deformations v) Swivel Motion	Check the anchorage eye for it's availability. No crack, damage/breakage,deformation, etc. should be observed. Check the Swivel motion of the eye for free movement. If any non-confirmity found mark the block and send for servicing / repair.	

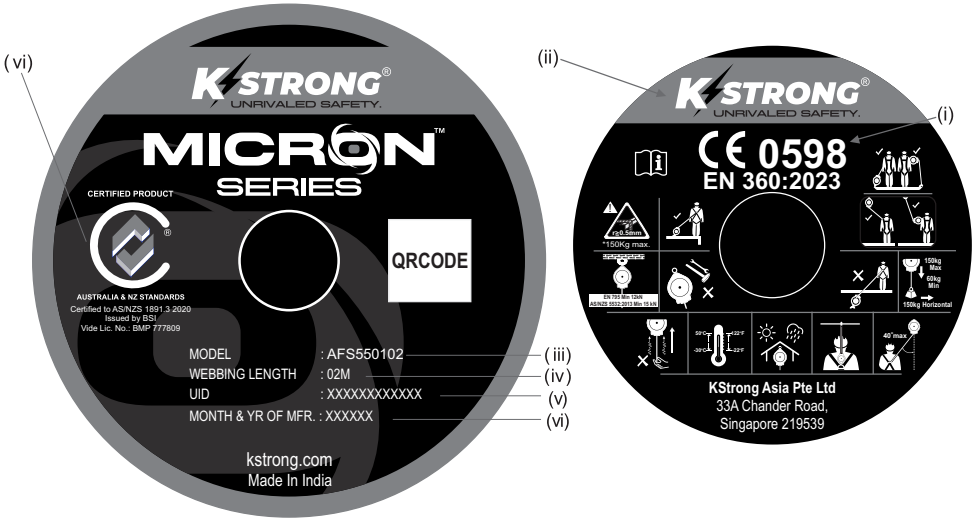
Checking Area		Inspect for		Guide Lines for inspection	Remarks
2) Snap Hook	a. Load Indicator Status		i) Red or Green	Never use the block if Load Indicator shows Red colour.	
	b. Metal Parts		i) Deformation ii) Cracks	Check all metal parts for deformation or crack.	
	c. Functioning		i) Opening and Locking	Check the functionality of the hook. Gate should not open without pushing lock. Spring movement of the Gate and Lock must work free.	
3) Webbing Assembly	a. Shock Pack (ENERGY ABSORBER)		i) Cut ii) Deployment iii) Any other damage	Check the termination end including SHOCK PACK for any cut deplyment & any other damage	
	b. Webbing		(i) Frays (ii) Open webbing Threads (iii) Cut (iv) Damage	Check the frays, open webbing threads, cut, damage etc.	
4) Functionality and Performance	a. Retraction & Mechanical functioning		It must retract the webbing on its own	Extract the webbing out side and allow it to retract automatically. Block should retract whole wire automatically.	
	b. Locking		By pulling out the webbing with a sudden jerk.	Hold the hook and extract the webbing with a sudden jerk, block must lock .	

Note:- If any non-conformity found, mark the block and send it for servicing / repair to the authorized service centre.

Inspection Date: ……

Inspector's Signature: ……

MARKING:



MARKING EXPLANATION

The Retractable Fall Arrester is marked with:

(i) The CE mark showing that the product meets the requirements of the PPE Regulation (EU) 2016/425

(ii) Identification of manufactures

(iii) Type or product code

(iv) Wire Rope Length

(v) UID for traceability

(vi) Month/Year of Manufacture

(vii) Norm & Year

(viii) Atex marking

(ix) Marking of Australia Standards AS/NZS 1891.3 2020

INFORMATION GIVEN ON LABEL :-

Keep away from direct sunlight or heavy rains.

Use between temperature range of -30°C to + 50°C.

Ensure that the anchorage point has strength of min 12kN (EN) and 15kN (AS/NZS 5532:2013).

The system is designed for users with a minimum weight of 60 kg and a maximum weight of 150 kg, suitable for use in both vertical and horizontal directions.

Ensure that the max angle between the vertical & the lanyard is 40°.

Do not attempt repair unless trained by the manufacturer.

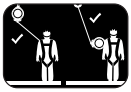
Block can also be used in sharp edge condition.

Micron Block cannot be used where the Anchorage below the foot level.

Once the Webbing has been reeled out, do not leave It suddenly to retract inside on its own, let it go inside gradually by guiding it slowly inside.

It can be used on the sharp edges having radius ≥ 0.5mm

Connect the lanyard to the Dorsal attachment element of your harness.



The pictogram indicates the correct anchor point position and the proper orientation of the block.

Micron Block is suitable for use when the anchorage point is at foot level and shows the correct anchor point position and proper block orientation.

Read the Instructions before use.

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 its proper use. Users are required to complete and record the pre-use inspection as outlined in this UIM. Failure to follow these inspection and usage requirements significantly increases the user's liability exposure, as improper or undocumented use may not be supported during an incident investigation and could affect warranty or service outcomes. The manufacturer is not liable or responsible for any loss, damage, or injury caused or incurred by any person due to improper usage or installation of this product.

EQUIPMENT RECORD		
Product:		
Model and type/identification	Trade name	Identification number
Manufacturer	Address	Tel, fax, email
Year of manufacture	Purchase date	Date first put into use
Other relevant information (e.g. Document number)		

PERIODIC EXAMINATION AND REPAIR HISTORY				
Date	Reason for entry (periodic examination or repair)	Defects noted, repair carried out and other relevant information	Name and signature of competent user	Periodic examination next due date

Date	Reason for entry (periodic examination or repair)	Defects noted, repair carried out and other relevant information	Name and signature of competent user	Periodic examination next due date

*Updates to the UIM are part of our regular revision cycle to keep the manual current and aligned with evolving best practices. While the UIM has always been compliant with the equipment's intended design and safety requirements, periodic updates are important to ensure continued clarity, accuracy, and optimal user guidance.

Certification Body :

ANCCP Certification Agency S.R.L., Via dello Struggino, 6 (2nd floor), I-57121 Livorno (Italy) (Notified Body 0302)

Ongoing Assessment Body:

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

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