



FS903PR-130 / FS905-300 Rescue System Users Manual



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Descender Range

The SAFEWAZE™ Descender is the most versatile constant rate descender on the market today, packed full of innovative features. Models are available for both automatic hands free operation and multiple descent models with advanced rescue functionality, as well as power assisted option (separate SAFEWAZE™ approved drill required). The device is designed to be used attached to the anchor point in regular mode of operation, or in an inverted mode, attached to the user and/or casualty. The device is completely symmetrical, allowing full use of all functions regardless of the direction the Descender is running. This also gives full functionality for each multiple descent or rescue. This device has an automatic braking system. This manual must be provided to the user / rescuer before use, all users must read and understand the information given in this manual before using this device. The SAFEWAZE™ descender range is designed for emergency descent & rescue purposes only and must not be used for fall arrest applications, lifting / lowering loads or other non-rescue related tasks.

Product Overview & Model Designation



FS903PR -130 Bag



Model	Description
FS905-300	150kg max rated load, descent only
FS903PR-130	MAX150R 150kg max rated load, descent & rescue
	150kg max rated load, descent & power assisted rescue

Installation, Use, Compatibility & Service

Installation

The device must not be installed where the following hazards may endanger the user or prevent the efficient operation of the system. The area below the device must be free of obstruction that will prevent the free pay-out of rope or may obstruct the movement of the user. The environment must be free of heavy solvents or acids that will degrade the device, life line or the hook. Ensure there is sufficient free area around the unit for the handle to fully rotate. If there is any chance of the line becoming entangled in lifting equipment, passing vehicles or structures then do not install.

Install the device so that it is away from the edge, so avoiding swing hazards, the user must not have to lean out to reach the device or hook and endangering themselves with a fall hazard.

Never install where there is a possibility of electric shock hazards. When installing ensure that you are not subjecting yourself to potential fall hazards, wear a full body harness and shock absorbing lanyard anchoring yourself while installing.

For anchorage instructions and requirements please see page 5.

Max User Weight

FS903-130 models are single user devices, with a maximum user weight of 330lbs(150kg).

Before Use

It is imperative that before using this device that;

- The rope is free from damages such as burn marks, loose threads, chemical soiling, UV damage or any other signs of damage that could affect the integrity of the rope.
- The rope runs smoothly through the device in both directions
- There are no cracks, deformations or flaws on the device
- All fittings and connectors are free from damage such as corrosion or deformation
- The user checks the functionality of the device by connecting to an anchor and pulling the descent rope in both directions. The rope should run smoothly with resistance through the device.
- If fitted, ensure the rescue wheel revolves when rope is pulled through the device, in both directions.

If you have any doubts or queries contact SAFEWAZE™ for advice.

Compatibility

The use of adapters and accessories with the SAFEWAZE™ descender which are not original SAFEWAZE™ products is strictly prohibited. The SAFEWAZE™ descender can be used with any suitable harness including full body harnesses to ANSI Z359.11-2014, rescue harnesses to ANSI Z359.4-2013, or any other approved suitable body holding device. Also, connecting elements (according with ANSI Z359.12) and anchorage connectors (according with ANSI Z359.1) If in doubt contact your approved SAFEWAZE™ agent for further details.

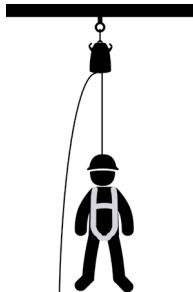
Service Life

The duration of the service life depends on the individual usage conditions and continued inspection and service as necessary. With proper storage in a sealed container the maximum expected service life is 10 years.

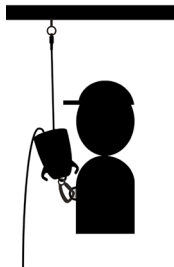
Rescue Planning

Before use, and when using the device, users and supervisors should always make suitable provisions for rescue. A full risk assessment should be carried out to determine the most effective, safe and quickest form of rescue. For more information on specialist rescue systems or training please contact the SAFEWAZE™ technical team.

Anchorage, Connection & FS903-130 Sabre



Standard Descent
Mode



Inverted Descent Mode

Suitable fall arrest equipment must be used to protect the worker when connecting the Descender to the anchor point. The fall arrest equipment must be anchored to an approved anchorage structure separate to that of the rescue system.

Anchorage selected for rescue purposes must be capable of sustaining static loads of at least 3100lbs (13.8kN) for rescue system only, or meet a factor of safety of 5:1 based on the static load placed on the system when the system is designed, installed and used under the supervision of a qualified person. Individuals involved in rescue operations that are exposed to a potential fall hazard must use a separate anchorage system which complies with ANSI/ASSE Z359.1. Anchorage connections shall be stabilized to prevent unwanted movement or disengagement of the rescue system from the anchorage. Verify system connections by pre-tensioning the system before applying the intended load.

Both the Descender connector and rope connector may be used to connect to anchorage or user. When connecting the device to an anchorage above the user, use the Descender connector to connect the top anchor point to the anchorage structure, the user may then be attached to a single rope end via a rope connector. When the device is to be used in an inverted position the user will be required to connect the Descender connector on the devices top anchor point to the front 'D' of their harness. A single rope end must then be connected to the anchorage structure using the rope connector, therefore inverting the device. Before descending ensure all slack has been removed between the anchorage and user.



The FS903-130 rescue pole has been designed to attach casualties who are out of the reach of the rescuer to the SAFEWAZE™ descender, without exposing the rescuer to a fall hazard. The FS903-130 has telescopic sections which can be extended up to five meters. By twisting the sections clockwise the lock is released and the section can be extended, twisting the section counter-clockwise will lock it in place.



Step 1
Retract gate catch



Step 2
Insert carabiner into
FS903-130 rescue pole.



Step 3
Pull the carabiner
gate back, inserting
the barrel of the gate
into the catch.



Step 4
Hook the carabiner
onto the harness fall
arrest point and pull
rescue pole back to
release.

Descending

The entire FS903-130 range has automatic or hand controlled descent functions. Once a person has been safely attached to the rope the device will automatically control descent speed to 1.6ft/s - 6.5ft/s (0.5m/s - 2m/s) without the need for user input. If required descent can be prevented by using the rope lock off points, (See page 8 for rope lock-off methods). When there is a potential fall hazard when disconnecting from the rescue system, post descent, it will be necessary to connect the rescuer/user to an appropriate fall arrest system (compliant with ANSI Z359.1), to reduce the risk of a fall while disconnecting from the rescue system. The user/rescuer may also be required to lock-off the rope to prevent further descent. The rescuer must not expose themselves to a potential fall hazard and may be required to use a fall arrest or restraint system (compliant with ANSI Z359.1).

Ensure all connecting elements have been safely closed. If the rope between the user and the anchorage is slack, pull the opposite rope until it is taut before commencing with descent.

There are three methods of use when descending.

Method One - Automatic Descent Only

This method should be used when the rescuer is connecting the casualty to be lowered and then allowing the descender to lower the casualty and at an automatically controlled rate without manual input from the rescuer or casualty. Connect the Descender connector to the anchorage above the user and then the rope connector to the casualty. Next remove any slack between the casualty and the Descender and lock off the non load bearing rope using the standard rope lock off method shown on page 8. If required remove any fall arrest or restraint equipment from the casualty. The casualty can be lowered by releasing the non load bearing rope from the rope lock off, the user will descend at a constant rate without manual input.

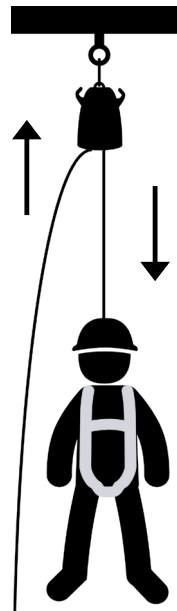
Once released do not attempt to grasp the rope as this may result in serious injury.

Method Two - Top Controlled Descent

This method should be used when the rescuer is controlling the descent of the casualty when positioned next to the anchored SAFEWAZE™ Descender. The rescuer will be required to wear heavy duty gloves to prevent injury. Connect the Descender connector to the anchorage above the user and then the rope connector to the casualty. Next remove any slack between the casualty and the Descender and lock off the non load bearing rope using the standard rope lock off method shown on page 8. If required remove any fall arrest or restraint equipment from the casualty. To begin descending the rescuer will need to slowly remove the non load bearing rope from the rope grip (NOT THE ROPE HOOKS) using both hands to control the rope. The casualty will begin to descend at a rate controlled by the rescuer up to 6.5ft/s (2m/s). To slow or halt descent push the non load bearing rope back into the rope grip.

Method Three - Self Controlled Descent

This method should be used when the descender is used in an inverted position, in which the user has control of their own descent. The user will be required to wear heavy duty gloves to prevent injury. Connect the Descender connector to the front D of the harness and then the rope connector to the anchorage above the user. Next remove any slack between the Descender and the anchorage and lock off the non load bearing rope using the inverted rope lock off method shown on page 8. If required remove any fall arrest or restraint equipment.



WARNING!

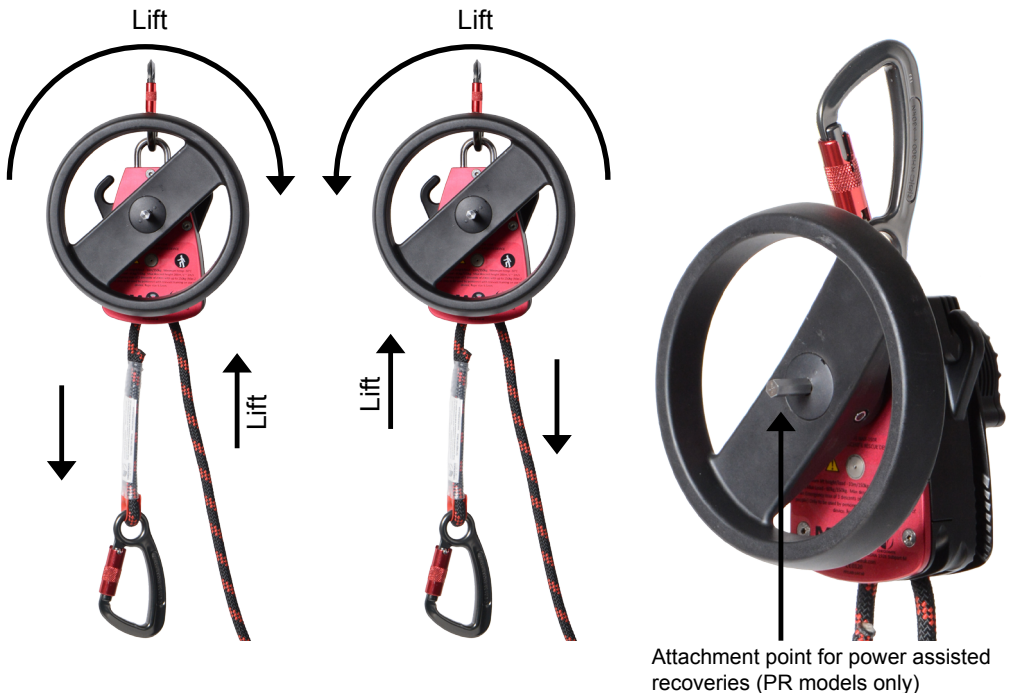
When used as an auto descender the hand wheel will begin to spin rapidly, do NOT grab the wheel when it is revolving.

Once released do NOT attempt to grasp the upstream rope during descent as this may result in serious injury. Always ensure that the landing zone is free from electrical, thermal, chemical or other potentially harmful hazards.

To begin descending the user will need to slowly remove the non load bearing rope from the final rope grip which is the last contact point between the rope and descender using both hands to control the rope. The user will begin to descend at a self controlled rate up to 6.5ft/s (2m/s). To slow or halt descent push the non load bearing rope back into the vacant rope grip.

Ascending & Rescue(R/PR Models Only)

With a ratio of 8:1 the FS903-130 descender can be used to raise a casualty/user by hand simply by revolving the hand wheel. The hand wheel must be turned in the correct direction, as shown below. Alternatively by attaching a SAFEWAZE™ approved drill, casualties/users can be lifted at the push of a button. When operating the rescue function the non load bearing rope must be fed through and locked off using the method supplied in this manual and pulled tight through the lock off points every four revolutions of the hand wheel or 4”(100mm) of rope travel. When locking off the rope ensure one hand has a firm grasp of the rescue wheel to prevent descent. When using the drill ensure the correct fittings are attached, the torque setting is set to drill and the gear selection is set to slow. It is necessary that the drill is removed when not in use as it poses an injury threat when the device is in auto-descent mode. With the use of an integrated rope lock off, the device will hold a load if the rope or hand wheel is released. Once raised to an upper elevation it may be necessary for the user/rescuer to lock-off the rope to prevent the individual(s) from descending. When receiving the rescuee/user the rescuer must not expose themselves to a potential fall hazard and may be required to use a fall arrest or restraint system(compliant with ANSI Z359.1). To protect the rescuee/user from a potential fall hazard they must be connected to an appropriate fall arrest system(compliant with ANSI Z359.1) before disconnecting from the rescue system.



Rope Lock-off

To prevent pay out of rope and therefore halting descent there are integrated rope lock-off points on each side of a FS903-130 descender (R/PR models only).

Standard (Method 2)

Step 1



Take rope entering the device (non load bearing end)

Step 2



Run the rope over the rope hook away from the red plate.

Step 3



Thread the rope through the rope grip, and pull to engage in grip.

Inverted (Method 3)

Step 1



Take non load bearing rope entering the device and pass it under the rope hook, towards the red plate.

Step 2



Align the rope with the rope guide.

Step 3



Lay the rope across the full width of the descender through the rope guide.

Step 4



Run the rope under the rope hook away from the red plate and finally through the rope grips.

Issue, Storage, Re-Packing Rope & Warnings!

Issue

This and associated equipment must be visually inspected by a competent person when initially delivered to site, there after the product must be inspected before and after use. A record card is printed on pages 14-15 of this manual and should be updated after each routine inspection. Follow the points laid down in the section headed "Inspection" without deviation. The supervisor must ensure that the equipment is being used correctly by a trained and/or otherwise competent person who is aware of its safe use and inspection. Additionally the supervisor must ensure that there are suitable and accessible anchorages in the working environment to allow safe anchorage of the device.

Storage

Storage in a clearly marked, readily accessible and protected location allows assurance of inspection on issue and return. The device should be stored in a clean dry place where it can be protected from damage by heat, light, excessive moisture, oil, chemicals and their vapors, or other degrading elements. It should be stored with its instructions and record card at all times. Equipment which is in need of or scheduled for maintenance shall be marked or tagged as unusable and removed from service. Return the device back to its original box or other suitable container for storage & transportation. After use return to the store, Never leave the device lying around site. When the device remains installed at a workstation between periodic inspections, actions must be taken to ensure the device is adequately protected against environmental conditions.

Textile materials such as the rope lifeline may be cleaned with warm water (104°F / 40°C) and a mild soap solution and then washed thoroughly with clean water afterwards. Wet equipment must be allowed to dry naturally in a well ventilated area away from direct sunlight. Never dry in laundry driers or other heat sources. If dirt or other contaminants are suspected to have been ingested into the descender unit, the device must be sent to an authorised service agent for inspection and maintenance.

Re-packing Rope

Caution: Do not touch the brake chamber. The device may become hot during or after use. When repacking the rope back into the FS903-130 bag (e.g. after rope inspection) thread the rope through a non abrasive hook or pulley elevated above the bag, then feed the rope by hand into the bag 10ft at a time, after every 10ft of rope pick up and drop the bag onto the floor three or four times to prevent knotting, coiling or twisting of the rope.



Warnings!

Read and understand manufacturers instructions before inspection, installation or use of this product. This device must only be used by a person competent in its use or following clear emergency protocols. Only use approved equipment with this product. If there are any points in this manual that you are unsure of seek a competent, trained person to advise you before using. Seek medical advice from a doctor before using this product if; you have sustained a spinal injury, suffer from a neck or back complaint, or you are taking prescription medication. Never use if you are under the influence of alcohol or recreational drugs. The device must be removed from service immediately for inspection, repair or replacement if the device has been subjected to the forces of arresting a fall or affecting a rescue. Never use this system unattended. Never alter or misuse the equipment. Do not use combinations of components or subsystems, or both, which may affect or interfere with the safe function of each other. Do not use the equipment around moving machinery or electrical hazards. Exposing the equipment to chemicals, high heat, severe cold, or other harsh environments may produce a harmful effect, in cases of doubt please contact SAFEWAZE™. Never use this system unless you are supervised by a trained and competent person. Always avoid sharp or abrasive edges, use edge protection if necessary. Only the device manufacturer or persons or entities authorized in writing by the manufacturer shall make repairs to the equipment. If the device has arrested a fall and/or has been subjected to fall forces the device must be removed from service, marked or tagged as unusable and either disposed of or returned to the manufacturer for evaluation.

Inspection & Service Agents

Before Use

To ensure the safety of the user the device must be examined before each use. Visually inspect the descender for deformities or damages including but not limited to;

- Cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration or excessive wear on the body, hand wheel and top anchorage.
- Absence or ineligibility of markings or tag.
- Absence of any elements affecting the equipment form, fit or function.
- Alteration, absence of parts or evidence of defects in, damage to or improper function of, mechanical devices and connectors.
- Any other condition that calls to question the suitability of the equipment for its intended purpose.

Examine all fittings such as screws and bolts are present and free from rust and/or damage. If the device is deemed unfit for use it must be removed from service immediately and given a thorough inspection.

To inspect the functionality of the descender, pull the rope through the device in both directions, the movement should be smooth with resistance. If in doubt remove the device from service immediately and conduct a thorough examination, do NOT attempt to service the device yourself.

Inspect the condition of the rope, if there are any indications of damage including but not limited to fraying, kinking, knotting, roping, broken or pulled stitches, excessive elongation, chemical attack, excessive soiling, roping, abrasion, alteration needed or excessive lubrication, excessive aging or excessive wear the rope must be removed from service immediately and given a thorough examination to determine if the rope is safe for use. To clean the rope use warm water with a mild detergent and leave to dry naturally. When an inspection reveals any of the problems listed below, the equipment shall be permanently removed from service or undergo adequate corrective maintenance before return to service.

- Defects in or damage to equipment
- Inadequate maintenance of equipment

After Use

After each use(max of 3 consecutive descents of 200m / 656ft at 150kg / 330lbs) , regardless of operational time, the device must be taken for inspection and service by a trained, authorized person or the manufacturer. This must not be the original equipment inspector.

Annual Inspection:

The descender must be inspected at least annually by authorised personnel or the manufacturer. Information regarding the inspection must be documented on the record card in this manual (See pages 14-15). Devices which fail inspection must be removed from service immediately. When discarding the device ensure the rope is made unusable by cutting it fully and the descender unit is destroyed to prevent any further use. Devices which fail inspection and require service must be removed from service immediately and labelled clearly to show that the device must NOT be used and requires maintenance.

Service Agents

Only trained and competent service agents are authorized to inspect and service FS903-130 descenders. Service agents must hold written authority from SAFEWAZE™.

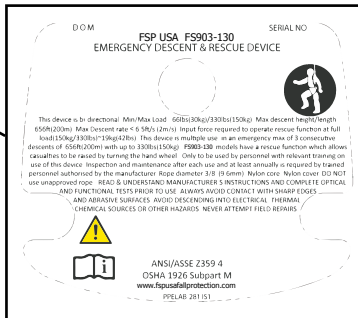
Product Marking/Labeling



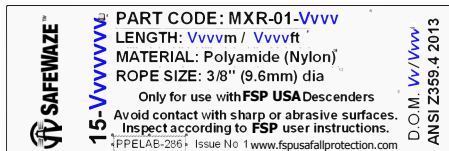
Tamper-proof label, do not use if missing or damaged



User Information Label



Rope Label



Warranty & Exclusions

Warranty

SAFEWAZE™ warrants its products are free from defects in materials and construction under normal use and service. Liability is not accepted for abuse, modification, improper use, destructive activity and contaminated exposure.

Exclusion

SAFEWAZE™ holds global product liability cover for your safety. SAFEWAZE™ will NOT however be responsible for:

- a) Users who are out of the scope of any written manuals of training given.
- b) Any device that has NOT been inspected under the current legislation and manufacturers guidelines.
- c) Devices that have been damaged.
- d) When the maximum weight in lbs has been exceeded.
- e) Devices that have NO serial number markings, and the manufacturers name, SAFEWAZE™, is not present.

Technical Specifications



Maximum rated load
MAX-150 = 330lbs (150kg)



Descender Unit

Min descent distance: 16ft (5m)
 Max descent distance: 656ft (200m)
 Min descent rate: 1.6ft/s (0.5m/s)
 Max descent rate: 6.5ft/s (2m/s)
 Force required to operate device
 when loaded to capacity: 42lbs (19kg)
 Minimum working load: 66lbs (30kg)
 Max number of descents: 3 consecutive
 descents of 656ft (200m) when under full load
 Max personnel capacity: 1
 Descent energy rating: 610,080j
 Operational temperature range: -40°F to
 129.2°F (-40°C to 54°C)

Rope:

Construction: Three braided cores and a 32
 plait cover
 Material: Nylon
 Min service/working length: 16ft (5m)
 Max service/working length: 656ft (200m)
 Diameter: 3/8"(9.6mm)
 Sheath slippage: 0" - 2/8" (0-5mm)
 Rope elongation(50-150kg): 4%
 Mass of outer sheath per metre: 0.8oz.
 (24.4g)
 Mass of core per metre: 1.3oz. (36.6g)
 Mass per 1m: 2.2oz. (61g)
 Shrinkage: 3%





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