3M

DBI SALA®

Fall Protection

CE

	EN 341:2011/1A (1 user up to 140 kg; 2 users up to 200 kg)	**PPE Regulation (EU) 2016/425**
US Production	**CE Type Test** No. 1019 VVUU, a.s. Pikartska 1337/7 716 07 Ostrava-Radvanice Czech Republic	**CE Product Quality Control** No. 2797 BSI The Netherlands B.V. Say Building John M. Keynesplein 9 1066 EP Amsterdam Netherlands
European Production	**CE Type Test** No. 1019 VVUU, a.s. Pikartska 1337/7 716 07 Ostrava-Radvanice Czech Republic	**CE Product Quality Control** No. 1019 VVUU, a.s. Pikartska 1337/7 716 07 Ostrava-Radvanice Czech Republic
EN 1496:2017, Class B (1 user up to 140 kg)	**Accredited Certification Body for Products** VVUU, a.s., Pikartska 1337/7, 716 07, Ostrava-Radvanice, Czech Republic	
Specifications based on additional testing VVUU, a.s., Pikartska 1337/7, 716 07, Ostrava-Radvanice, Czech Republic		

ROLLGLISS™ R550
RESCUE AND ESCAPE DEVICE

USER INSTRUCTIONS
5908126 Rev. B

☑ *For identification of product codes, refer to Table 1. See "Table 1 - Product Specifications" for more product information.*

Figure 1A - Product Overview

Model	Style (Figure 1B)	Connectors (Figure 1C)		Extended Length (X)	Weight	
		A	B			
3329012	**1**	C1	C2	32.8 ft. (10 m)	10.5 lb. (4.7 kg)	
3329022	**1**	C1	C2	65.6 ft. (20 m)	11.9 lb. (5.4 kg)	
3329032	**1**	C1	C2	98.4 ft. (30 m)	13.4 lb. (6.1 kg)	
3329042	**1**	C1	C2	131.2 ft. (40 m)	17.8 lb. (8.1 kg)	
3329052	**1**	C1	C2	164 ft. (50 m)	14.9 lb. (6.7 kg)	
3329062	**1**	C1	C2	196.8 ft. (60 m)	16.3 lb. (7.4 kg)	
3329072	**1**	C1	C2	229.6 ft. (70 m)	19.3 lb. (8.7 kg)	
3329084	**1**	C1	C2	262.4 ft. (80 m)	20.8 lb. (9.4 kg)	
3329092	**1**	C1	C2	295.2 ft. (90 m)	21.8 lb. (9.9 kg)	
3329102	**1**	C1	C2	328 ft. (100 m)	22.5 lb. (10.2 kg)	
3329112	**1**	C1	C2	360.8 ft. (110 m)	25.5 lb. (11.5 kg)	
3329122	**1**	C1	C2	393.6 ft. (120 m)	26.9 lb. (12.2 kg)	
3329132	**1**	C1	C2	426.4 ft. (130 m)	28.4 lb. (12.9 kg)	
3329142	**1**	C1	C2	459.2 ft. (140 m)	29.9 lb. (13.6 kg)	
3329152	**1**	C1	C2	492 ft. (150 m)	31.4 lb. (14.2 kg)	
3329162	**1**	C1	C2	524.8 ft. (160 m)	32.8 lb. (14.9 kg)	
3329172	**1**	C1	C2	557.6 ft. (170 m)	34.3 lb. (15.6 kg)	
3329182	**1**	C1	C2	590.4 ft. (180 m)	35.4 lb. (16.1 kg)	
3329192	**1**	C1	C2	623.2 ft. (190 m)	36.6 lb. (16.6 kg)	
3329202	**1**	C1	C2	656 ft. (200 m)	38.7 lb. (17.6 kg)	
3335010	**2**	C1	C3	32.8 ft. (10 m)	6.6 lb. (3.0 kg)	
3335020	**2**	C1	C3	65.6 ft. (20 m)	8.1 lb. (3.7 kg)	
3335030	**2**	C1	C3	98.4 ft. (30 m)	9.6 lb. (4.3 kg)	
3335040	**2**	C1	C3	131.2 ft. (40 m)	11.0 lb. (5.0 kg)	
3335050	**2**	C1	C3	164 ft. (50 m)	12.5 lb. (5.7 kg)	
3335060	**2**	C1	C3	196.8 ft. (60 m)	14.0 lb. (6.3 kg)	
3335070	**2**	C1	C3	229.6 ft. (70 m)	15.5 lb. (7.0 kg)	
3335080	**2**	C1	C3	262.4 ft. (80 m)	16.9 lb. (7.7 kg)	
3335090	**2**	C1	C3	295.2 ft. (90 m)	18.4 lb. (8.3 kg)	
3335100	**2**	C1	C3	328 ft. (100 m)	19.9 lb. (9.0 kg)	
3335110	**2**	C1	C3	360.8 ft. (110 m)	21.3 lb. (9.7 kg)	
3335120	**2**	C1	C3	393.6 ft. (120 m)	22.8 lb. (10.3 kg)	
3335130	**2**	C1	C3	426.4 ft. (130 m)	24.3 lb. (11.0 kg)	
3335140	**2**	C1	C3	459.2 ft. (140 m)	25.8 lb. (11.7 kg)	

Figure 1A - Product Overview						
Model	**Style (Figure 1B)**	**Connectors (Figure 1C)**		**Extended Length (X)**	**Weight**	
		A	**B**			
3335150	**2**	C1	C3	492 ft. (150 m)	27.2 lb. (12.4 kg)	
3335175	**2**	C1	C3	574 ft. (175 m)	30.9 lb. (14.0 kg)	
3335200	**2**	C1	C3	656 ft. (200 m)	34.6 lb. (15.7 kg)	
3335225	**2**	C1	C3	738 ft. (225 m)	38.3 lb. (17.4 kg)	
3335250	**2**	C1	C3	820 ft. (250 m)	42.0 lb. (19.0 kg)	
3335275	**2**	C1	C3	902 ft. (275 m)	45.6 lb. (20.7 kg)	
3335300	**2**	C1	C3	984 ft. (300 m)	49.3 lb. (22.4 kg)	
3335400	**2**	C1	C3	1312 ft. (400 m)	64.1 lb. (29.1 kg)	
3335500	**2**	C1	C3	1640 ft. (500 m)	78.8 lb. (35.7 kg)	
3336010	**1**	C1	C3	32.8 ft. (10 m)	9.8 lb. (4.4 kg)	
3336020	**1**	C1	C3	65.6 ft. (20 m)	11.3 lb. (5.1 kg)	
3336030	**1**	C1	C3	98.4 ft. (30 m)	12.7 lb. (5.8 kg)	
3336040	**1**	C1	C3	131.2 ft. (40 m)	17.2 lb. (7.8 kg)	
3336050	**1**	C1	C3	164 ft. (50 m)	14.2 lb. (6.4 kg)	
3336060	**1**	C1	C3	196.8 ft. (60 m)	15.7 lb. (7.1 kg)	
3336070	**1**	C1	C3	229.6 ft. (70 m)	18.6 lb. (8.4 kg)	
3336080	**1**	C1	C3	262.4 ft. (80 m)	20.1 lb. (9.1 kg)	
3336083	**1**	C1	C3	272.24 ft. (83 m)	20.5 lb. (9.3 kg)	
3336090	**1**	C1	C3	295.2 ft. (90 m)	21.1 lb. (9.6 kg)	
3336100	**1**	C1	C3	328 ft. (100 m)	21.9 lb. (9.9 kg)	
3336105	**1**	C1	C3	344.4 ft. (105 m)	23.3 lb. (10.6 kg)	
3336110	**1**	C1	C3	360.8 ft. (110 m)	24.8 lb. (11.2 kg)	
3336120	**1**	C1	C3	393.6 ft. (120 m)	26.3 lb. (11.9 kg)	
3336130	**1**	C1	C3	426.4 ft. (130 m)	27.7 lb. (12.6 kg)	
3336140	**1**	C1	C3	459.2 ft. (140 m)	29.2 lb. (13.3 kg)	
3336150	**1**	C1	C3	492 ft. (150 m)	30.7 lb. (13.9 kg)	
3336160	**1**	C1	C3	524.8 ft. (160 m)	32.2 lb. (14.6 kg)	
3336170	**1**	C1	C3	557.6 ft. (170 m)	33.6 lb. (15.3 kg)	
3336175	**1**	C1	C3	574 ft. (175 m)	34.4 lb. (15.6 kg)	
3336180	**1**	C1	C3	590.4 ft. (180 m)	34.7 lb. (15.8 kg)	
3336200	**1**	C1	C3	656 ft. (200 m)	38.1 lb. (17.3 kg)	
3336225	**1**	C1	C3	738 ft. (225 m)	41.7 lb. (18.9 kg)	
3336250	**1**	C1	C3	820 ft. (250 m)	45.4 lb. (20.6 kg)	
3336275	**1**	C1	C3	902 ft. (275 m)	49.1 lb. (22.3 kg)	
3336300	**1**	C1	C3	984 ft. (300 m)	52.8 lb. (23.9 kg)	
3336400	**1**	C1	C3	1312 ft. (400 m)	67.5 lb. (30.6 kg)	
3336500	**1**	C1	C3	1640 ft. (500 m)	82.2 lb. (37.3 kg)	

Figure 1B - Product Styles

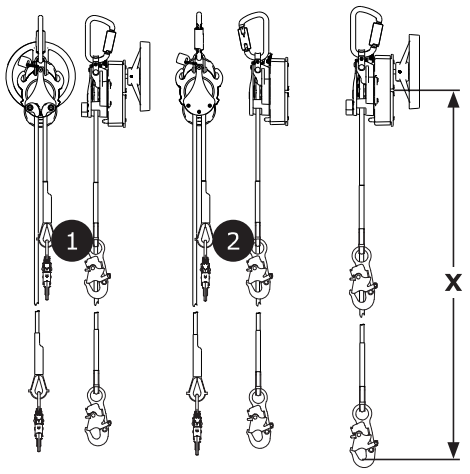
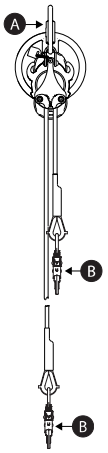


Figure 1C - Connector Locations



SAFETY INFORMATION

Please read, understand, and follow all safety information contained in these instructions, prior to the use of this product. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH.

These instructions must be provided to the user of the equipment. Retain these instructions for future reference.

Intended Use:

This product is used as part of a complete Fall Protection system.

Use in any other application including, but not limited to, material handling, recreational or sports-related activities, or other activities not described in these instructions, is not approved by 3M and could result in serious injury or death.

This product is only to be used by trained users in workplace applications.

⚠ WARNING

This product is used as part of a complete Fall Protection system. All users must be fully trained in the safe installation and operation of their complete Fall Protection system. **Misuse of this product could result in serious injury or death.** For proper selection, operation, installation, maintenance, and service, refer to all instruction manuals and manufacturer recommendations. For more information, see your supervisor or contact 3M Technical Services.

- **To reduce the risks associated with working with a Rescue Device which, if not avoided, could result in serious injury or death:**
  - Inspect the product before each use and after any fall event, in accordance with the procedures specified in these instructions.
  - If inspection reveals an unsafe or defective condition, remove the product from service immediately and clearly tag it "DO NOT USE". Destroy or repair the product as required by these instructions.
  - Any product that has been subject to fall arrest or impact force must be immediately removed from service. Destroy or repair the product as required by these instructions.
  - Ensure that Fall Protection systems assembled from components made by different manufacturers are compatible and meet all applicable Fall Protection regulations, standards, or requirements. Always consult a Competent or Qualified Person before using these systems.
  - Ensure the lifeline is kept free from all hazards, including, but not limited to: entanglement with users, other workers, moving machinery, other surrounding objects, or impact from overhead objects that could fall onto the lifeline or users.
  - Use appropriate edge protection when the lifeline may contact sharp edges or abrasive surfaces.
  - Do not twist, tie, knot, or allow slack in the lifeline.
  - Do not touch parts of the system exposed to friction during or after a descent; these parts become hot and may cause burns.
  - Follow all manufacturer recommendations when connecting a lifeline.
  - Always follow your workplace rescue plan when performing rescue operations.
  - Do not use this product unless you have received technical rescue training.
  - Ensure the product is configured and installed properly for safe operation as described in these instructions.
  - Do not exceed the number of allowable users specified in these instructions.
  - Ensure a clear descent path, and that the landing area is clear of any obstructions or hazards that you may contact.
  - Use caution when installing, using, or moving the product as moving parts may create pinch points.
  - Always record descents as specified by these instructions and remove product from service as necessary in accordance with listed usage limits.
  - The operator must always maintain control of the hand wheel when raising or lowering a person during rescue.

- **To reduce the risks associated with working at height which, if not avoided, could result in serious injury or death:**
  - Your health and physical condition must allow you to safely work at height and to withstand all forces associated with a fall arrest event. Consult your doctor if you have questions regarding your ability to use this equipment.
  - Never exceed allowable capacity of your Fall Protection equipment.
  - Never exceed the maximum free fall distance specified for your Fall Protection equipment.
  - Do not use any Fall Protection equipment that fails inspection, or if you have concerns about the use or suitability of the equipment. Contact 3M Technical Services with any questions.
  - Some subsystem and component combinations may interfere with the operation of this equipment. Only use compatible connections. Contact 3M Technical Services before using this equipment in combination with components or subsystems other than those described in these instructions.
  - Use extra precautions when working around moving machinery, electrical hazards, extreme temperatures, chemical hazards, explosive or toxic gases, sharp edges, abrasive surfaces, or below overhead materials that could fall onto you or your Fall Protection equipment.
  - Ensure use of your product is rated for the hazards present in your work environment.
  - Ensure there is sufficient fall clearance when working at height.
  - Never modify or alter your Fall Protection equipment. Only 3M, or persons authorized in writing by 3M, may make repairs to 3M equipment.
  - Before using Fall Protection equipment, ensure a written rescue plan is in place to provide prompt rescue if a fall incident occurs.
  - If a fall incident occurs, immediately seek medical attention for the fallen worker.
  - Only use a full body harness for Fall Arrest applications. Do not use a body belt.
  - Minimize swing falls by working as directly below the anchorage point as possible.
  - A secondary Fall Protection system must be used when training with this product. Trainees must not be exposed to an unintended fall hazard.
  - Always wear appropriate Personal Protective Equipment when installing, using, or inspecting the product.
  - Never work below a suspended load or worker.
  - Always maintain 100% tie-off.

☑ *Always ensure you are using the latest revision of your 3M instruction manual. Visit www.3m.com/userinstructions or contact 3M Technical Services for updated instruction manuals.*

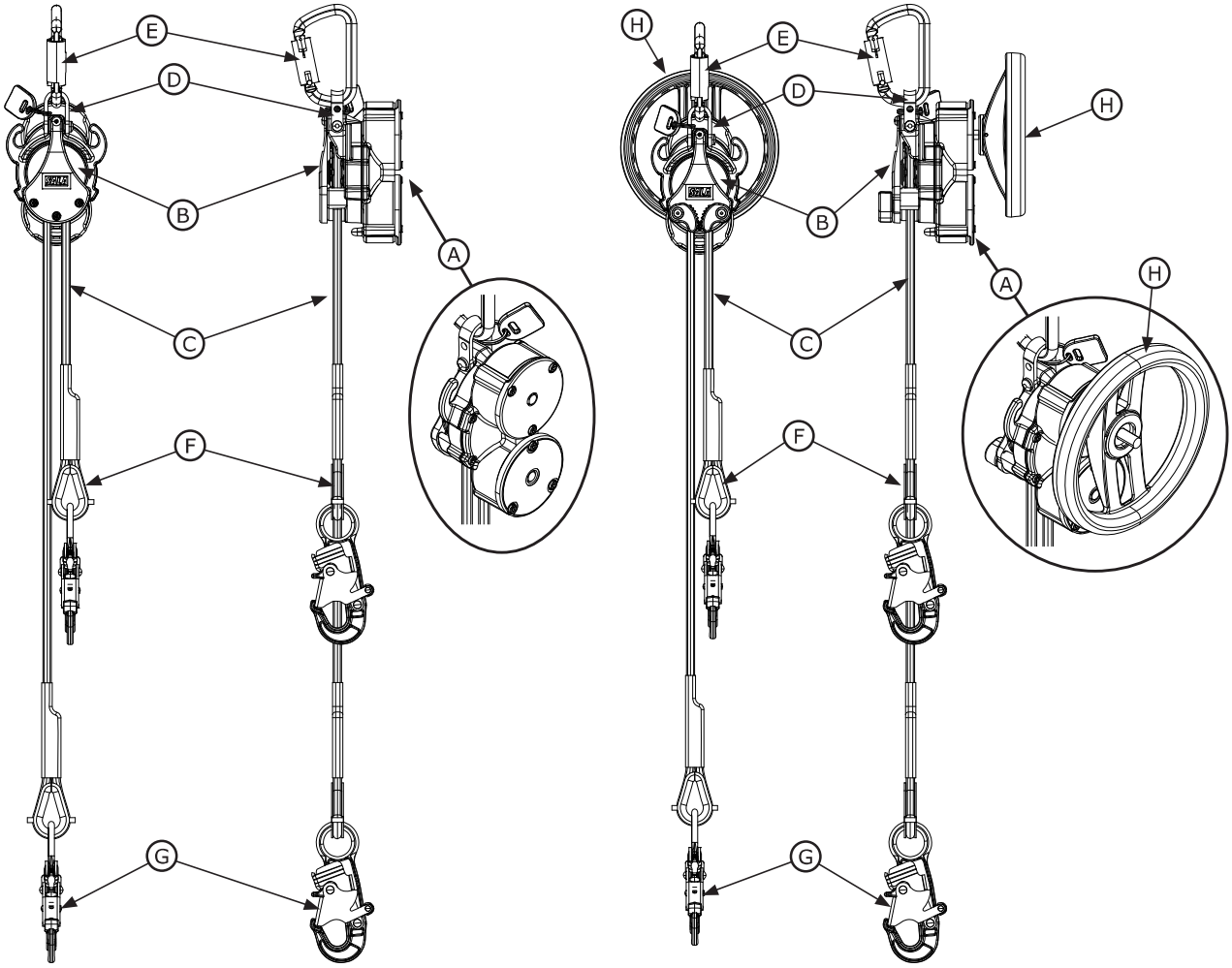
PRODUCT OVERVIEW:

Figure 1 illustrates the product models covered by this instruction. R550 devices may be used to lower persons to safety. Models incorporating a hand wheel may be used to raise persons a short distance to facilitate rescue. This product may be used in Rescue applications.

Figure 2 identifies key components of the available product models. The body of the R550 Device is comprised of the Housing Assembly (A). The Rope Sheave (B) is held within the Housing Assembly and ensures smooth operation of the Lifeline (C) in both directions. The Anchor Loop (D) secures the Anchoring Connector (E), which secures the system to an anchorage point. The Thimble (F) of the Lifeline secures the Lifeline Connectors (G), which may be secured to the users' attachment elements. The Hand Wheel (H) is secured to the Housing Assembly and facilitates the raising of attached persons.

See Table 1 for more information on Component Specifications.

Figure 2 - Components



☑ *Before using this equipment, record the product identification information from the ID label in the 'Inspection and Maintenance Log' at the back of this manual.*

Table 1 – Product Specifications

System Specifications:

Anchorage:

The structure to which the R550 Device is mounted must be capable of sustaining force in the anticipated direction(s) of loading. Each Anchorage Point location must be capable of sustaining the following values:

EN 795	1 Person	12 kN (2700 lbf)
	2 Persons	13 kN (2925 lbf)

When more than one R550 Device is attached to an anchorage the strengths stated above must be multiplied by the number of descent devices attached to the anchorage.

Capacity:

The capacity of this product is influenced by its prior use. Capacity is affected by the number of times the product has been used, the number of users, the total weight of those users, and the distance traveled by those users. Capacity limits differ between descent and lifting applications.

☑ *Product use should always be carefully supervised. Heavy loads and uncontrolled or long descents could result in product damage or user injury.*

Descent Applications:

Specifications based on EN 341:2011				
Maximum Users	**Maximum Number of Descents**	**User Weight (including tools, clothing, etc.)**	**Maximum Descent Distance: Single Use**	**Maximum Total Descent Distance**
1 Person	Multiple	130 lb. - 165 lb. (59 kg - 75 kg)	1,640 ft. (500 m)	32,808 ft. (10,000 m)
1 Person	Multiple	130 lb. - 220 lb. (59 kg - 100 kg)	1,640 ft. (500 m)	24,606 ft. (7,500 m)
1 Person	Multiple	130 lb. - 310 lb. (59 kg - 140 kg)	1,640 ft. (500 m)	18,044 ft. (5,500 m)
2 Persons	Multiple	130 lb. - 441 lb. (59 kg - 200 kg) [both users combined]	656 ft. (200 m)	13,123 ft. (4,000 m)

Specifications based on additional testing				
Maximum Users	**Maximum Number of Descents**	**User Weight (including tools, clothing, etc.)**	**Maximum Descent Distance: Single Use**	**Maximum Total Descent Distance**
2 Persons	Single	441 lb. - 620 lb. (200 kg - 280 kg) [both users combined]	656 ft. (200 m)	656 ft. (200 m)

Lifting Applications:

Specifications based on EN 1496:2017				
Maximum Users	**Maximum Lifts**	**User Weight (including tools, clothing, etc.)**	**Maximum Lift Distance: Single Use**	**Maximum Total Lift Distance**
1 Person	Multiple	66 lb. - 310 lb. (30 kg - 140 kg)	330 ft. (100 m)	330 ft. (100 m)
2 Persons	Multiple	66 lb. - 441 lb. (30 kg - 200 kg)	32.8 ft. (10 m)	32.8 ft. (10 m)

Specifications based on additional testing				
Maximum Users	**Maximum Lifts**	**User Weight (including tools, clothing, etc.)**	**Maximum Lift Distance: Single Use**	**Maximum Total Lift Distance**
2 Persons	Single	441 lb. - 620 lb. (200 kg - 280 kg) [both users combined]	3.28 ft. (1.0 m)	3.28 ft. (1.0 m)

Power Drill Compatibility:

Models incorporating a hand wheel (see "Components") are compatible with power drills that have at least a 1/2-in. (12.7 mm) chuck and 33.3 ft-lb. (45.2 N-m) of torque.

Service Temperature:

24.8°F to 140°F (-4°C to 60°C) in accordance with EN 341:2011.
-40°F to 140°F (-40°C to 60°C) based on additional testing and evaluation (dry unit and rope).

Standards:

Each product model is certified to, or conforms with, the applicable standards and regulations listed within Figure 1. If none are specified, then all standards and regulations listed on the cover apply.

Table 1 – Product Specifications

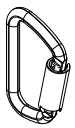
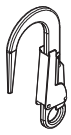
Component Specifications:

Figure 2 Reference	Component	Materials	Additional Notes
Ⓐ	Housing Assembly	Aluminum or steel	
Ⓑ	Rope Sheave	Aluminum	
Ⓒ	Lifeline	9.5 mm (3/8”) Polyamide static kernmantle rope	EN 1891:1998 Type A; .041 lb/ft (61 g/m) mass nominal (sheath 39% and core 61%); 5,620 lbf (25 kN) MBS; 4.2% elongation nominal; 3% shrinkage nominal
Ⓓ	Anchor Loop	Stainless steel	
Ⓔ	Anchoring Connector	(see Connector Specifications)	
Ⓕ	Thimble	Plastic; 9.5 mm (3/8”) nylon rope	
Ⓖ	Lifeline Connectors	(see Connector Specifications)	
Ⓗ	Hand Wheel	Nylon	

Connector Specifications:

Figure 1 Reference	Model Number	Description	Material	Gate Opening	Gate Strength
C1	2000112	Carabiner	Steel	11/16 in. (17 mm)	3,600 lbf (16 kN)
C2	9504558	Rebar hook	Aluminum	2.36 in. (60 mm)	225 lbf (1 kN)
C3	9502116	Snap hook	Zinc-plated steel	0.75 in. (19 mm)	3,600 lbf (16 kN)

☑ ***Tensile Strength:*** *The tensile strength of each of the connectors listed above is 22.2 kN (5,000 lbf).*

C1	C2	C3
		

Performance Specifications:

Average Descent Speed:

1 Person: 1.64 ft/s - 2.95 ft/s (0.5 m/s - 0.9 m/s)
2 Persons: 1.97 ft/s - 4.27 ft/s (0.6 m/s - 1.3 m/s)

Maximum Descent Energy Rating:

The Descent Energy Rating of your R550 Device is a calculable measure of wear on the product. Descent Energy Rating is influenced by user weight, descent height, the number of previous descents, and the number of simultaneous users. The Maximum Descent Energy Rating is the maximum allowable Descent Energy Rating for your product. If the product exceeds this rating, then it must be removed from service immediately.

Standard	Number of Users	Maximum Descent Energy Rating
EN 341:2011 (Class A)	One user up to 140 kg	5,531,700 ft-lb (7,500,000 J)
	Two users up to 200 kg (both users combined)	5,531,700 ft-lb (7,500,000 J)
☑ *Each user must weigh no more than 310 lb. (140 kg).*		

At any time, the Descent Energy Rating of your R550 Device must not exceed its applicable value. Descent Energy Rating can be calculated with the following equation:

$$E = W \times H \times N$$

Where “E” is the Descent Energy Rating in foot-pounds (ft-lb), “W” is the User Weight in pounds (lb.), “H” is the Descent Height in feet (ft.), and “N” is the total number of descents your R550 Device has experienced.

If, at any time, your R550 Device has a Descent Energy Rating (E) equal to or greater than its maximum, then the product must be removed from service immediately and marked “DO NOT USE”.

For metric units, the following equation should be used instead:

$$E = W \times H \times N \times G$$

Where “E” is the Descent Energy Rating in joules (J), “W” is the User Weight in kilograms (kg), “H” is the Descent Height in meters (m), “N” is the total number of descents your R550 Device has experienced, and “G” is the acceleration due to gravity (9.81 m/s^2).

Shorter length configurations will take a greater number of descents to reach the descent energy ratings of the unit. In these instances, the rope may become the limiting factor. Guidance on the number of descents based on rope life is listed above.

Unit service should be based on both the descent energy capacity and the rope life, whichever is reached first based on configuration and use.

1.0 PRODUCT APPLICATION

1.1 **PURPOSE:** R550 Rescue Devices are designed for use as part of a Rescue system. In a rescue situation, the device may be used to lower persons to safety. Models incorporating a hand wheel may be used to raise persons a short distance to facilitate rescue. For more information on system applications, refer to the "Product Overview" and Table 1.

1.2 **SUPERVISION:** Use of this equipment must be supervised by a Competent Person.

1.3 **STANDARDS:** Your product conforms to the national or regional standards identified on the front cover of these instructions. If this product is resold outside the original country of destination, the re-seller must provide these instructions in the language of the country in which the product will be used.

> ☑ *For more information on certification or conformance requirements, refer to the applicable standards and regulations listed for your product (e.g. the ANSI/ASSP Z359 Fall Protection codes).*

1.4 **TRAINING:** This equipment must be installed and used by persons trained in its correct application. These instructions are to be used as part of an employee training program as required by national, regional, or local standards. It is the responsibility of the users and installers of this equipment to ensure they are familiar with these instructions, trained in the correct care and use of this equipment, and are aware of the operating characteristics, application limitations, and consequences of improper use of this equipment.

1.5 **RESCUE PLAN:** When using this equipment and connecting subsystems, the employer must have a written rescue plan and the means to implement and communicate that plan to users, authorized persons, and rescuers. A trained, on-site rescue team is recommended. Team members should be provided with the equipment and techniques necessary to perform a successful rescue. Training should be provided on a periodic basis to ensure rescuer proficiency. Rescuers should be provided with these instructions. There should be visual contact or means of communication with the person being rescued at all times during the rescue process.

2.0 SYSTEM REQUIREMENTS

2.1 **ANCHORAGE:** Anchorage requirements vary with the Fall Protection application. The mounting structure on which the equipment is placed must meet the Anchorage specifications defined in Table 1.

2.2 **CAPACITY:** The user capacity of a complete Fall Protection system is limited by its lowest rated maximum capacity component. For example, if your connecting subsystem has a capacity that is less than your harness, you must comply with the capacity requirements of your connecting subsystem. See the manufacturer instructions for each component of your system for capacity requirements.

2.3 **ENVIRONMENTAL HAZARDS:** Use of this equipment in areas with environmental hazards may require additional precautions to prevent injury to the user or damage to the equipment. Hazards may include, but are not limited to: high heat, chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, sharp edges, or overhead materials that may fall and contact the user or equipment. Contact 3M Technical Services for further clarification.

2.4 **LIFELINE HAZARDS:** Ensure the lifeline is kept free from all hazards including, but not limited to: entanglement with users, other workers, moving machinery, other surrounding objects, or impact from overhead objects that could fall onto the lifeline or users.

2.5 **COMPONENT COMPATIBILITY:** 3M equipment is designed for use with 3M equipment. Use with non-3M equipment must be approved by a Competent Person. Substitutions made with non-approved equipment may jeopardize equipment compatibility and may affect the safety and reliability of your Fall Protection system. Read and follow all instructions and warnings for all equipment prior to use.

2.6 **CONNECTOR COMPATIBILITY:** Connectors are compatible with connecting elements when the size and shape of either component does not cause the connector to inadvertently open, regardless of orientation. Connectors must comply with applicable standards. Connectors must be fully closed and locked during use.

3M Connectors (snap hooks and carabiners) are designed to be used only as specified in each instruction manual. Ensure connectors are compatible with the system components to which they are connected. Do not use equipment that is non-compatible. Use of non-compatible components may cause the connector to unintentionally disengage (see Figure 3). If the connecting element to which a connector attaches is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the connector (A). This force could then cause the gate to open (B), disengaging the connector from the connecting element (C).

2.7 MAKING CONNECTIONS: All connections must be compatible in size, shape, and strength. See Figure 4 for examples of inappropriate connections. Do not attach snap hooks and carabiners:

A. To a D-Ring to which another connector is attached.

B. In a manner that would result in a load on the gate. Large-throat snap hooks should not be connected to D-Rings or other connecting elements, unless the snap hook has a gate strength of 16 kN (3,600 lbf) or greater.

C. In a false engagement, where size or shape of the connector or connecting element is not compatible and, without visual confirmation, would seem to be fully engaged.

D. To each other.

E. Directly to webbing or rope lanyard or tie-back material, unless the instruction manuals for both the lanyard and connector specifically allow such a connection.

F. To any object whose size or shape does not allow the connector to fully close and lock, or that could cause connector roll-out.

G. In a manner that does not allow the connector to align properly while under load.

Figure 3 - Connector Compatibility

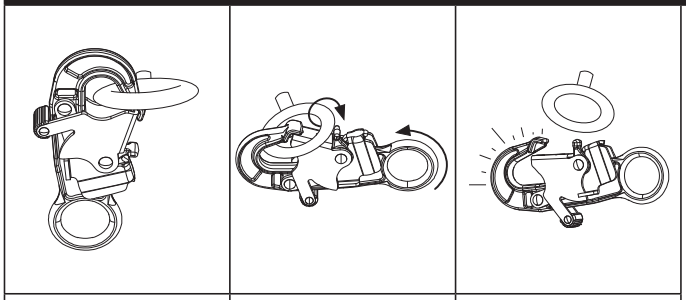


Figure 4 - Making Connections