

# Series 160 Gen 2 Continuous Line Top-Down Furler Product Manual



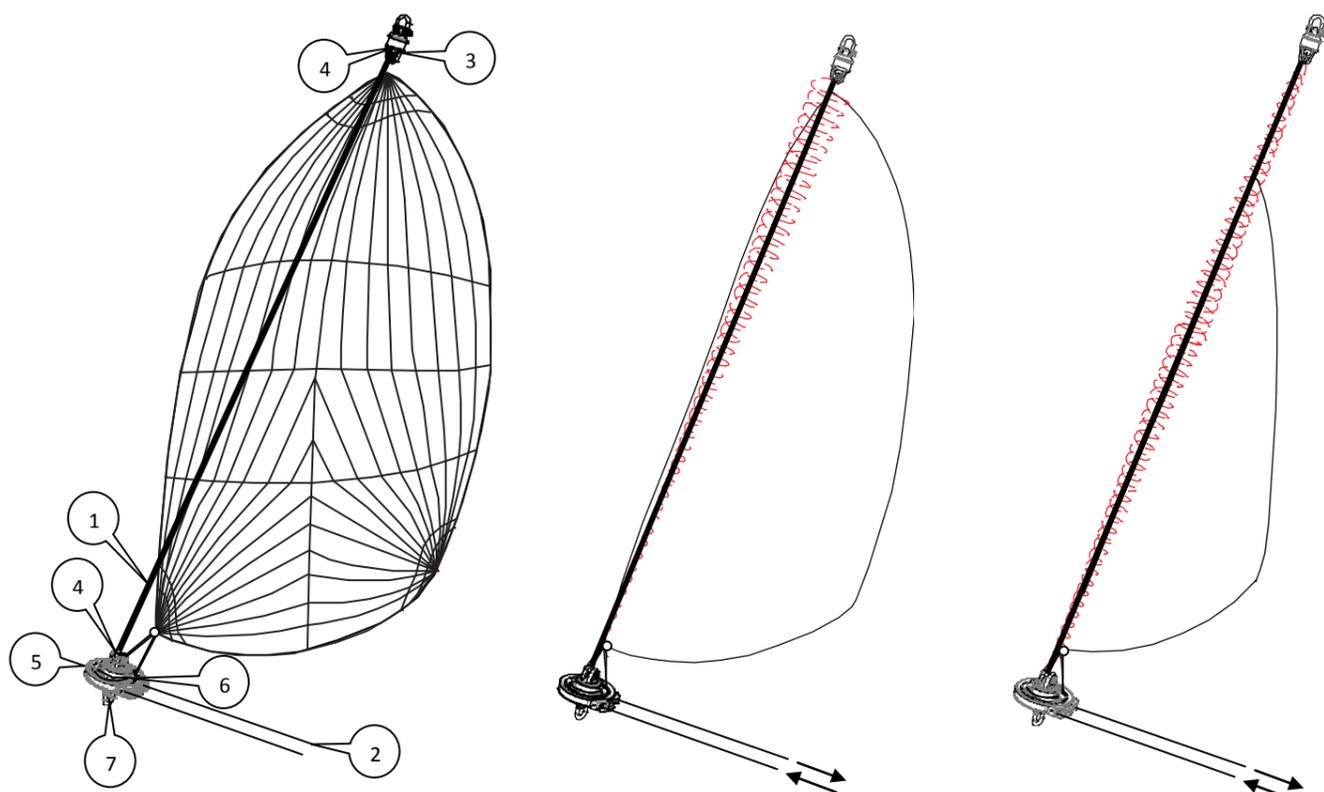
The furler you have purchased is designed for top-down furling of sails with a “soft” luff and full mid-section, such as free flying coded sails 1-6, reachers and gennakers. These sails are generally for downwind sailing, at true wind angles of greater than 90°. The top-down furler is designed to have the tack of the sail attached to the “floating” swivel collar at the base of the fork on the furler, and the head of the sail attached to the top swivel. This will provide furling from the top of the sail first, furling the sail from the head down to the tack.

The sail must be either completely unfurled or furled – the furler cannot be used with a partially furled sail.

You will require a synthetic luff cable (torsion line) with a thimble at each end, connected between the fork of the furler at the bottom and the swivel at the top. We recommend you discuss options with your sail maker for torsion line type, diameter and length, to suit your requirements. Effective top-down furling relies on the size and quality of the torsion cable - use the largest size that will fit in the thimble. Ronstan recommends FSE Robline GFL torsion line – contact us for more information.

Ronstan provides a range of accessories to suit this furler which can be found at the end of this manual.

## TOP-DOWN FURLER SETUP:



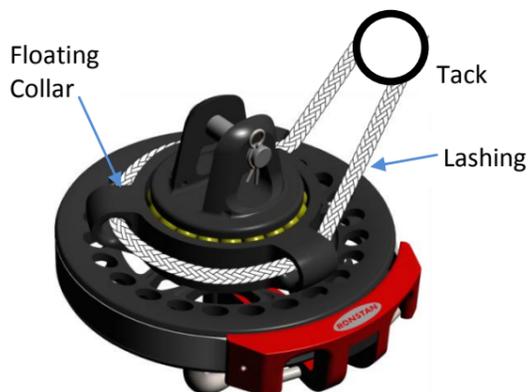
- 1. Torsion Cable
- 2. Continuous Furling Line
- 3. Top Swivel
- 4. Thimble
- 5. Furler
- 6. Top-Down Swivel Collar (Tack Attachment)
- 7. Furler Attachment \*

(\* Shackle, Snap Shackle or 2:1 fairlead – refer to “accessories” for information.)

## TACK ATTACHMENT:

The tack of the sail is attached to the floating collar by means of lashing through the three holes as shown. This ensures an even load distribution on the collar and therefore effective free swivelling. A “soft” LOOP® Shackle (as shown in the accessories section) provides a secure method of lashing the tack to the floating collar that can easily be released when required.

The offset nature of the three lugs and holes helps to keep the tack clear of the rotating torsion cable during furling. (TIP: If the tack of the sail is very stiff, it may be prone to catching on the torsion line whilst furling. To avoid this, attach an additional loose line to the tack of the sail.



Furling drum rotates, whilst tack remains stationary on “floating” collar. The torsion cable turns the top swivel, furling the sail from the top down.

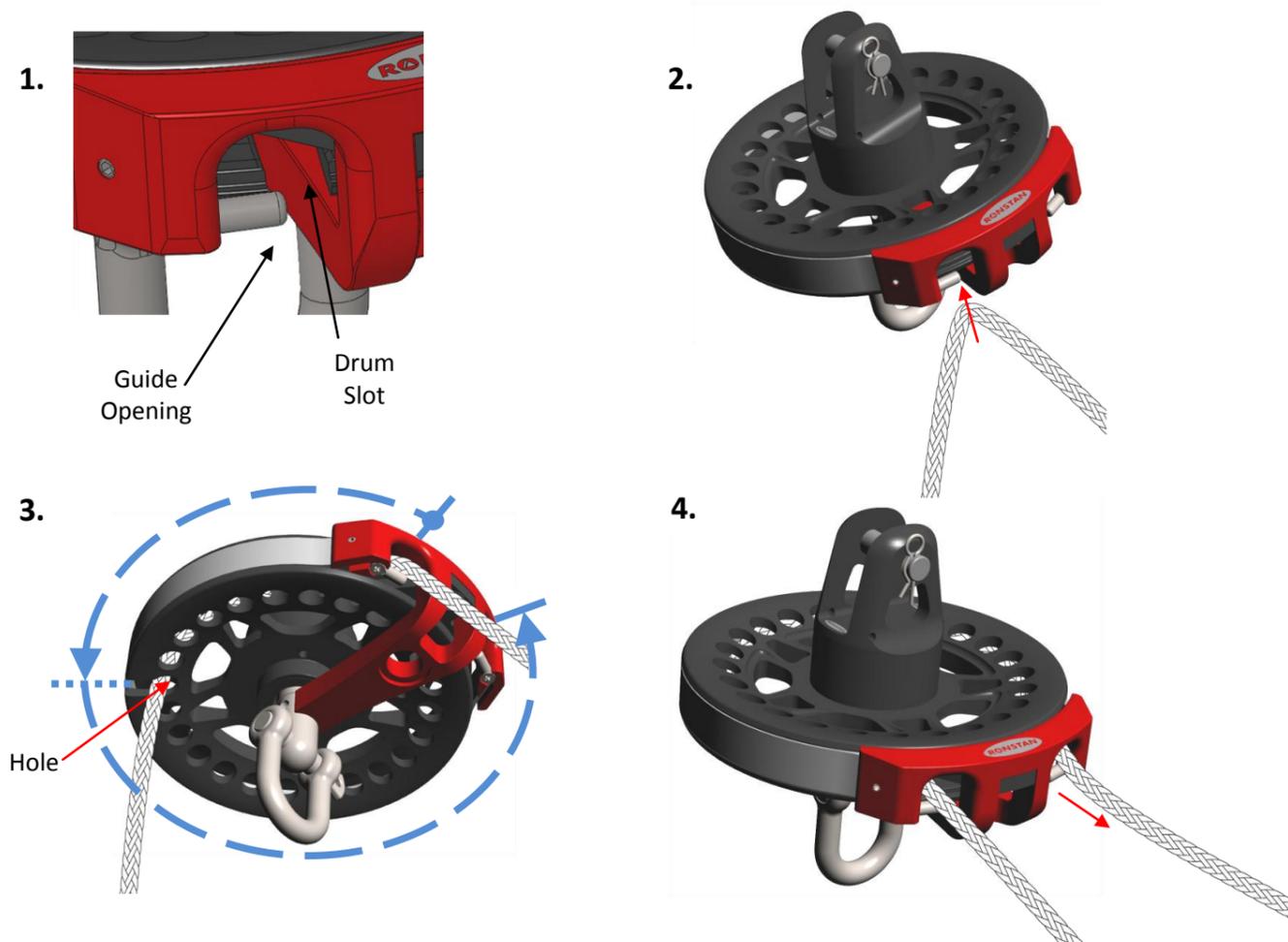
Pulling on this line while furling will keep the tack clear of the torsion cable.)

## CONTINUOUS FURLING LINE INSTALLATION & REMOVAL:

The Gen 2 range of Ronstan furlers feature easy furling line installation and removal. This allows easier furler attachment and removal if the furling line is permanently routed back to the cockpit through mounted blocks or fairleads.

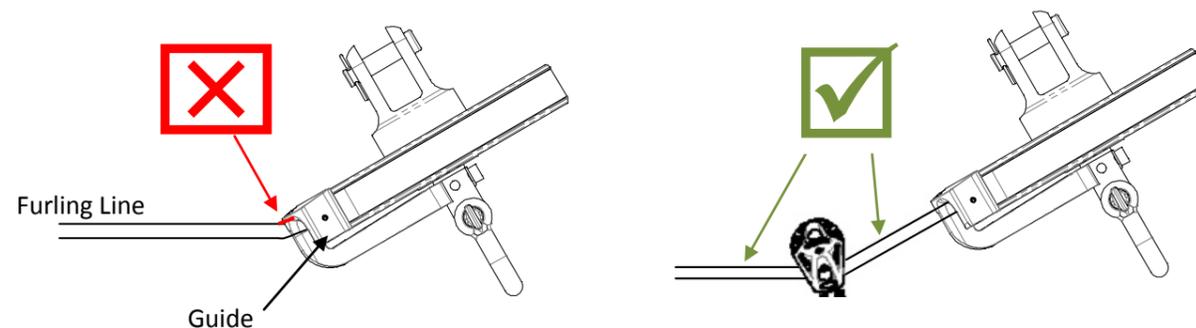
Ronstan recommends FSE Robline Sirius 500 polyester braid, 10mm (3/8”) for the continuous furling line – contact us for more information.

1. Locate the slot cut in the bottom drum plate and turn the drum until the slot lines up with the opening in the guide.
2. Push the rope through the guide opening and deep in to the slot until the rope is in the hole.
3. Rotate the drum all the way around until the slot lines up with the guide opening on the other side of the guide.
4. Pull the rope out through the guide opening.



## FURLING LINE ALIGNMENT:

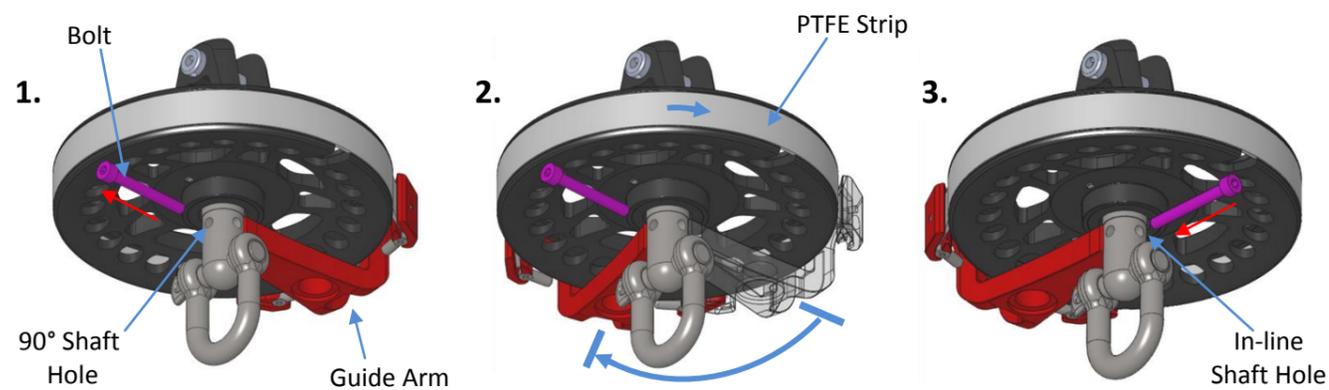
It is important that the furling line is correctly aligned with the guide as shown below. Blocks or fairleads should be used to guide the line where required.



Two Cam cleats can be used to secure the furling line when not in use and keep the sail from unfurling.

## **GUIDE ARM ALIGNMENT:**

The guide arm can be positioned in line or at 90 degrees to correctly align the furler mount with the deck or bowsprit attachment.



To change the orientation of the guide arm:

1. Remove the bolt located in the guide arm underneath the drum.
2. Rotate the guide arm and PTFE strip by 90° until the hole in the guide arm lines up with the alternate hole in the shaft.
3. Re-connect the guide arm to the shaft using the same bolt.

## **ACCESSORIES:**

### **RS216020 - Snap-Shackle Adaptor**

Simply replace the shackle on the furler or top swivel with the snap-shackle adaptor for quick attachment of the furler to your bow fitting or the top swivel to your halyard.

### **RS216030 - 2:1 Fairlead**

Use in place of the shackle on the furler to provide a 2:1 purchase on the furler attachment. The tack line is dead ended at the end of the bowsprit, runs up around the 2:1 fairlead, back down to a block at the end of the bowsprit, and back along the deck to a rope clutch. This configuration is a popular way of adjusting tension in the torsion cable, and hence the luff of the sail.



### **RS216040 – Thimble**

Used to terminate the torsion cable at both ends by wrapping the torsion cable around the thimble and then either stitching it to itself, or splicing it. The thimble also has an additional hole suited to lashing the tack of the sail to it. Lashing the sail to the thimble and not to the furler allows the torsion line and sail to be easily removed from the furler and top swivel as required.

### **RS216050 – HR Shackle**

Replacement shackles can be ordered to suit both the top swivel and the furler.

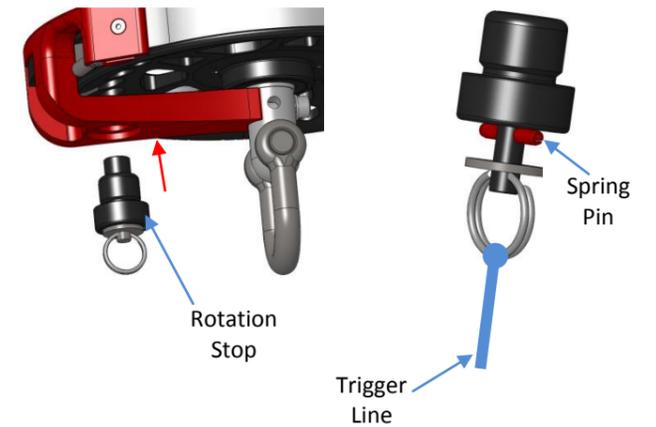
### **RS216070 – Rotation Stop**

This is designed to be engaged once the sail is fully furled to ensure the sail won't accidentally unfurl if the furling line is un-cleated. Useful if the furled sail is to be left in position for a period of time or once the furled sail is lowered to be put in its bag.

The stop assembly is screwed in to a hole in the guide arm. The rotation stop uses a spring loaded plunger style pin, which once engaged, sits in one of the through holes in the drum stopping the drum from rotating. It can either be operated manually at the furler unit, or the spring pin can be removed, and a trigger line attached and led back to a cleat, to allow locking or unlocking of the furler from the cockpit. The trigger line should have a short length of shock cord attached to it so that once the trigger line is pulled tight, disengaging the stop to allow furling, the furler can pitch up and down without the plunger pin moving and accidentally engaging.

The rotation stop has been designed to be sacrificial if the furling line is highly loaded with the stop in position. This ensures that the furler drum remains undamaged at the expense of the rotation stop which can be easily replaced.

The rotation stop cannot be used to allow a partial unfurl of the sail, it is only designed to be engaged once the sail is fully furled.



### **RS216080 – Top Swivel Lashing Pin**

Use in place of the clevis pin on the top swivel to provide a more positive drive to the head of the sail. This helps to ensure a tight furl at the head.

The head of the sail is lashed to the cotton reels on the ends of the pin while the torsion cable and thimble are attached to the centre section of the pin.



### **RS216090 – Quick Release Pin**

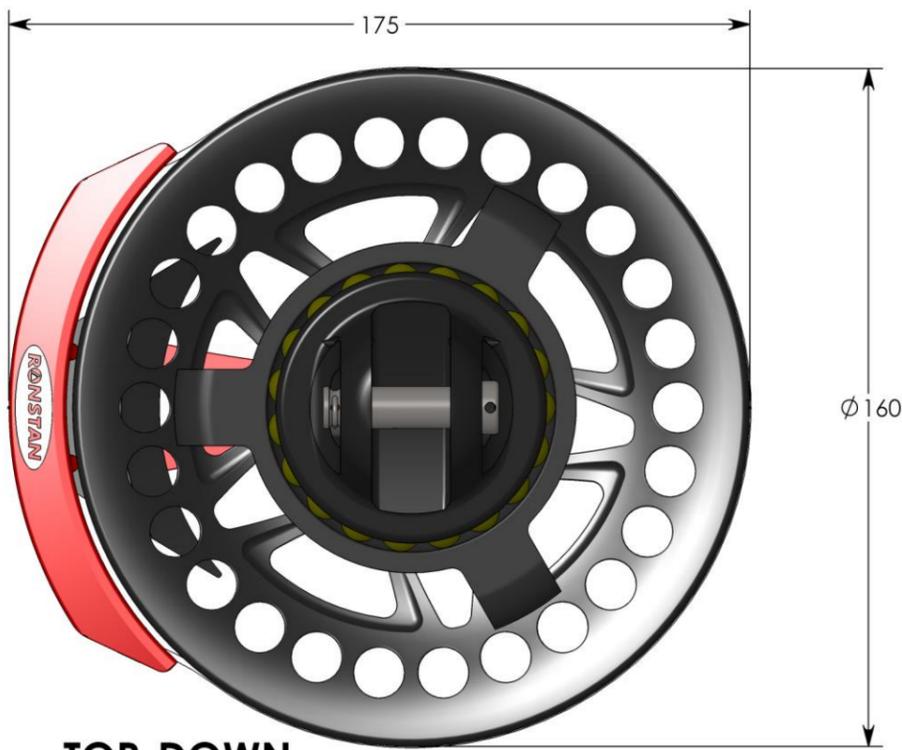
The clevis pins in both the top swivel and the furler can be replaced with Quick Release pins for faster attachment and removal of the torsion line from the furler and top swivel. This is an advantage during racing when the furled sail is required to be removed and attached for upwind and downwind legs. These Quick Release pins are a positive ball-lock style pin to allow quick release and attachment whilst ensuring security. They are provided with a lanyard to ensure you don't lose them over the side when released.

### **L5-500-2 – Soft Loop Shackle 5mm**

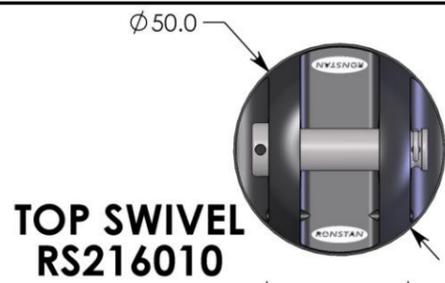
Used to attach the tack of the sail to the floating top-down collar on the furler. The loop is passed through all three lashing holes before passing through the tack of the sail and connecting to itself. (Refer to previous diagram under "tack attachment".) The soft loop shackle allows easy attachment and release of the tack from the floating collar of the furler – an advantage if the furler is to be left on deck.

## **MAINTENANCE:**

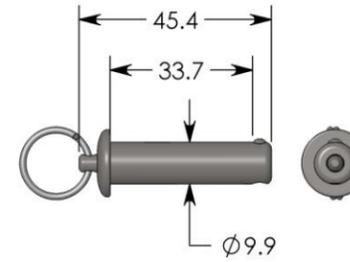
- Rinse regularly with fresh water to remove salt.
- Apply Ronstan RF3000 Sailfast (or a similar silicon based lubricant) over the body and components to enhance performance and prolong service life. (Do not use petro-chemical lubricants).
- Periodically remove fasteners and re-apply Tef-Gel® (TG-10) to prevent corrosion.
- Factory sealed bearings are maintenance free. Bearing and seal replacement can be arranged through your local Ronstan reseller.
- Furlers have a three year warranty – refer to [www.ronstan.com](http://www.ronstan.com) for terms and conditions.



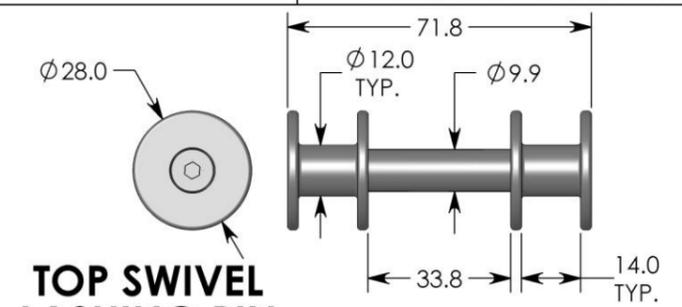
**TOP-DOWN FURLER**



**TOP SWIVEL RS216010**



**QUICK RELEASE PIN RS216090**



**TOP SWIVEL LASHING PIN RS216080**

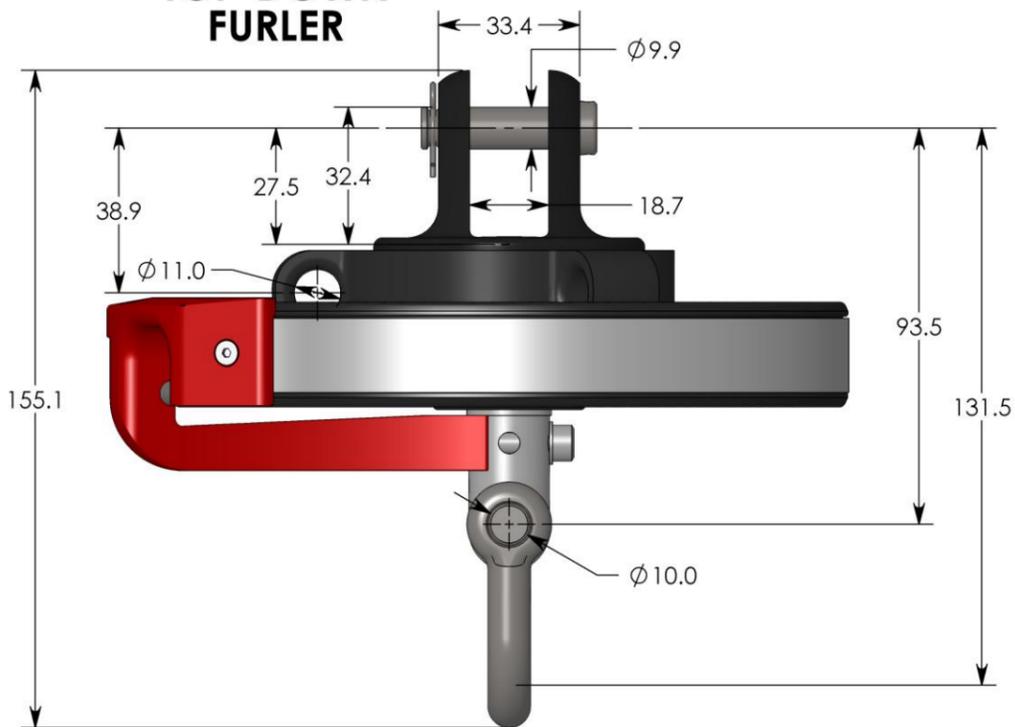
**SPECIFICATIONS: RS216800 S160 GEN 2 TOP-DOWN FURLER SET**

- TOP-DOWN FURLER & SHACKLE**  
 MWL = 3000kg (6610lb)  
 BL = 6000kg (13230lb)  
 WEIGHT \* = 964g (34.0oz)  
 FURLER LINE Ø = 10mm (3/8")  
 SHACKLE = 10mm HR
- RS216010 - TOP SWIVEL & SHACKLE**  
 MWL = 3000kg (6610lb)  
 BL = 6000kg (13230lb)  
 WEIGHT \* = 300g (10.6oz)  
 SHACKLE = 10mm HR

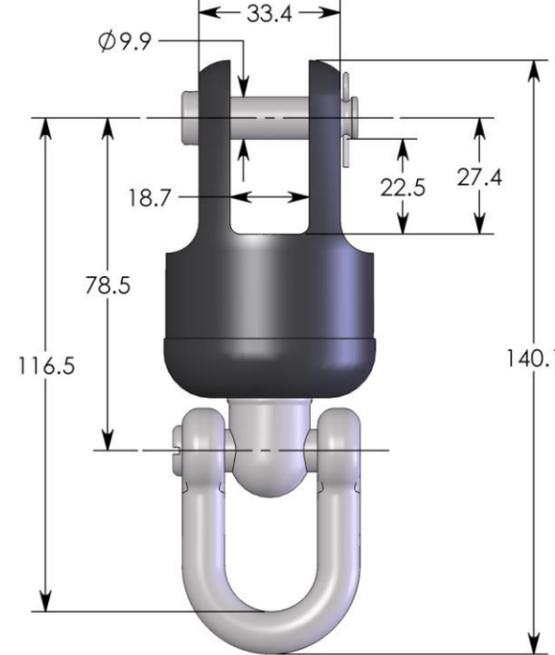
\*Weight doesn't include Shackle

**ACCESSORIES:**

- RS216020 - SNAP SHACKLE ADAPTOR**  
 MWL = 2800kg (6170lb)  
 BL = 7000kg (15430lb)  
 WEIGHT = 257g (9.1oz)
- RS216030 - 2:1 FAIRLEAD**  
 MWL = 2640kg (5820lb)  
 BL = 6000kg (13230lb)  
 WEIGHT = 186g (6.6oz)
- RS216040 - LUFF LINE THIMBLE**  
 MATERIAL = AL6061, ANODISED  
 WEIGHT = 53g (1.9oz)
- RS216050 - HR SHACKLE, 10mm (PLUS FLUSH PIN)**  
 BL = 7500kg (16500lb)  
 WEIGHT = 97g (3.4oz)
- RS216070 - FURLER ROTATION STOP**  
 WEIGHT = 18g (0.6oz)
- RS216080 - TOP SWIVEL LASHING PIN, 10mm**  
 MWL = 3000kg (6610lb)  
 BL = 6000kg (13230lb)  
 WEIGHT = 90g (3.2oz)
- RS216090 - QUICK RELEASE PIN, 10mm**  
 MWL = 3000kg (6610lb)  
 BL = 6000kg (13230lb)  
 WEIGHT = 26g (0.9oz)
- L5-500-2 - SOFT LOOP SHACKLE, 5mm x 500mm**  
 MWL = 1000kg (2200lb)



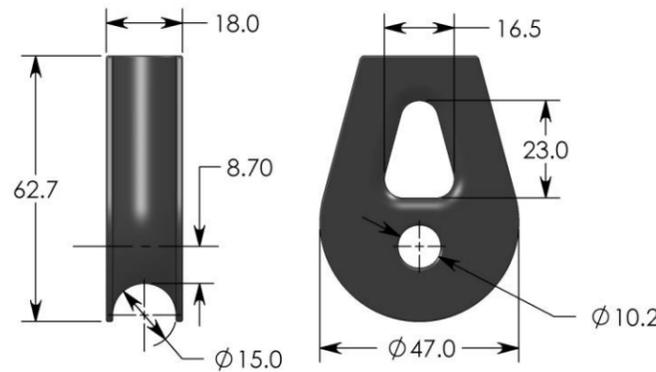
**2:1 FAIRLEAD RS216030**



**THIMBLE RS216040**



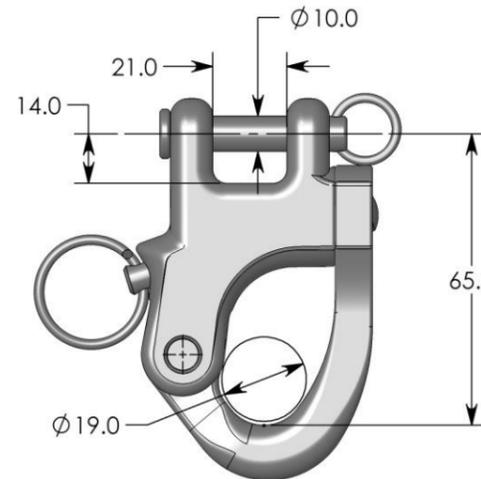
**LOOP SHACKLE L5-500-2**



**SHACKLE RS216050**



**ROTATION STOP RS216070**



**SNAP-SHACKLE ADAPTOR RS216020**

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