

Maximum Capability Document

Sherman & Reilly Metering Sheave

This document has been prepared in accordance with Appendices A & B from the UNOLS RVSS. This Hanging sheave has been designed for use with a wide variety of tension member diameters. The sheave grooving is in accordance with Appendix A for a safety factor of 5.0. This sheave is rated for all deployment types referred to by Appendix B section B.3.5.

Section	Operation	Allowed
B.3.5.1	Towing – Surface	Y
B.3.5.2	Towing - Mid Water	Y
B.3.5.3	Towing - Deep Water	Y
B.3.5.4	Station Keeping – Surface	Y
B.3.5.5	Station Keeping – Mid Water	Y
B.3.5.6	Station Keeping – Deep Water	Y

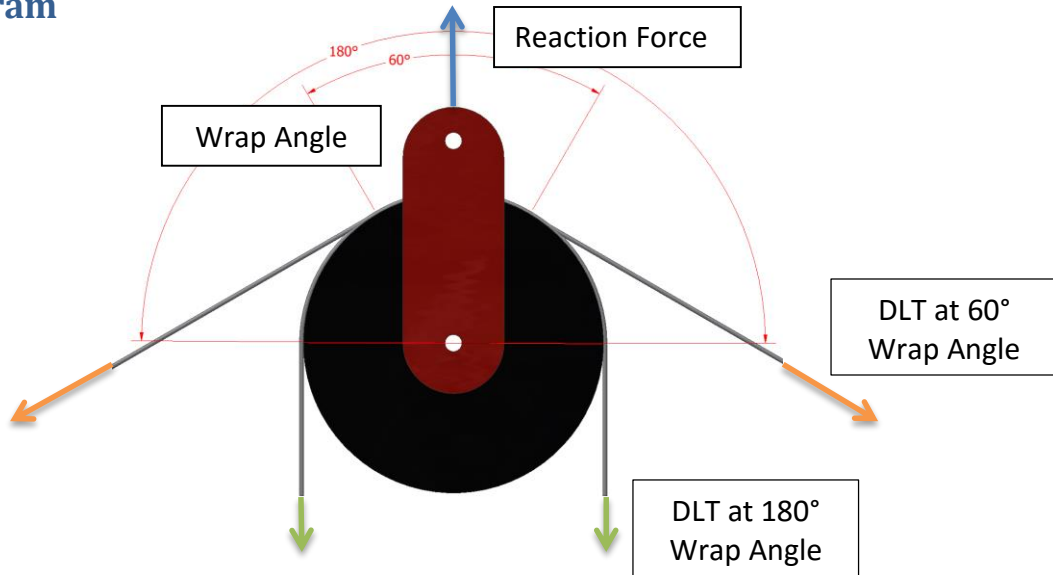
System Characterizations

Appendix A FS	5.0
Minimum SWT ¹	5,000 lbf
Wrap Angle ¹	180°
Maximum SWT ¹	< 10,000 lbf
Wrap Angle ¹	> 60°
Weight	46 lbf
DLT Reaction Load ²	30,000 lbf
MWT Reaction Load	10,000 lbf
Groove Diameter	0.813 in
Tread Diameter	22 in

¹ SWT/DLT changes as the wrap angle changes. In some cases some tension members may be limited to certain angles.

² The Reaction Load is based on DLT/SWT at any angle

Free Body Diagram



The reaction force is constant over the MPT/DLT range. Using the table below it is possible to estimate the MPT/DLT based on a given geometry and use.

Wrap Angle	SWT	SWT Reaction	DLT	DLT Reaction
180°	5,000 lbf	10,000 lbf	15,000 lbf	30,000 lbf
165°	5,040 lbf	10,000 lbf	15,120 lbf	30,000 lbf
150°	5,170 lbf	10,000 lbf	15,510 lbf	30,000 lbf
135°	5,400 lbf	10,000 lbf	16,200 lbf	30,000 lbf
120°	5,770 lbf	10,000 lbf	17,310 lbf	30,000 lbf
105°	6,300 lbf	10,000 lbf	18,900 lbf	30,000 lbf
90°	7,050 lbf	10,000 lbf	21,210 lbf	30,000 lbf
75°	8,200 lbf	10,000 lbf	24,640 lbf	30,000 lbf
60°	10,000 lbf	10,000 lbf	30,000 lbf	30,000 lbf
45°	13,000 lbf	10,000 lbf	39,000 lbf	30,000 lbf